The Journal
OF THE
Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything; while we are executing one work we are preparing ourselves for undertaking another.

VOL. XIX. APRIL, 1915. No. 4.

BOARD OF MANAGEMENT.

The usual Monthly Meeting of the Board of Management of the Jamaica Agricultural Society was held at the Office of the Society, 11 North Parade, Kingston, on Thursday, 18th March, 1915, at 11.40 a.m. Present: His Excellency Sir Wm. H. Manning, K.C.M.G., C.B., (presiding); Hons. L. J. Bertram, C.M.G., D. Campbell, R. P. Simmonds and J. R. Williams; Messrs. R. Craig, A. W. Douet, A. C. L. Martin, E. W. Muirhead, Adam Roxburgh, Conrad Watson, and the Secretary, Jno. Barclay.

Apologies for Absence.—Apologies for absence were submitted from Sir Jno. Pringle, K.C.M.G., the Hons. P. C. Cork, C.M.G., Geo. McGrath and S. S. Stedman; Rev. W. T. Graham, Messrs. H. Q. Levy and Archibald Spooner.

The Minutes of the previous Meeting, having been printed and circulated, were taken as read and confirmed.

Matters arising out of the Minutes:—

(*a*) *Experiments in Sea Island Cotton Growing.*—The Secretary said that at the previous Meeting Mr. Cork had asked for some particulars of the cost of the experiment in cotton growing, and he now submitted statements showing the expenditure and income of two typical plots—(1) that at New Forest conducted by this Society under the superintendence of the local Instructor, and (2) the Instructor's own plot. The New Forest plot showed a nett profit of £2 13/- for the cotton sold in war times at 1/- per lb.; under ordinary market conditions the cotton would have fetched from 1/3 to 1/6 per lb. This plot was grown under the driest conditions possible, and the freight to the ginnery from Alligator Pond was most expensive; if there had been a local ginnery there would not of course have been so much expense. No catch crops were grown in this plot, but any small settler who grew cotton would grow catch crops through it. The Instructor's plot was grown as a typical small settler's plot would be grown, with first, a catch crop of red beans through it, the crop of which he (the Secretary) had bought at a cheap price; usually these beans would fetch more—and a second catch crop of corn was grown. The total nett profit on this plot was £10 17s. 1½d. These plots were raised under the worst of weather conditions, with almost total failure elsewhere; he thought it was worth publishing the particulars in the JOURNAL for general information. This was agreed to, and the Secretary was also directed to send a copy of these particulars to Mr. Cork, who was absent.

The Secretary said there was a letter from the C. S. O. *re* Cotton, further down on the Agenda, which might be taken now. This was agreed to, and the following letter was read :—

No. 2223-2230. 20th February, 1915.

"With reference to your letter No. 4979 dated the 1th November last, I am directed by the Governor to transmit, for the information of the Board of Management of your Society, the accompanying copy of a letter from the Director of Agriculture, on the subject of the "Marie Galante" variety of cotton, together with a copy of the letter from Mr. W. Sands, Agricultural Superintendent of St. Vincent (which formed the enclosure thereto) and to ask that the latter may be published by the Board of Management, as suggested by Mr. Cousins in the closing paragraph of his letter."

(Sgd.) G. M. Wortley,
Acting Asst. Colonial Secretary.

The Secretary said he had submitted this letter with the enclosures to Mr. Conrad Watson for his comments.

Mr. Watson then read his comments on same, and asked that if the Director of Agriculture's letter and Mr. Sand's letter were published, his reply might be published also.

It was resolved that as under the present experimental conditions the letter might only be misleading and confusing, only the gist of the arguments on the respective merits of Cauto Cotton and Marie Galante Cotton as a perennial or ratooning cotton, might be published.

The Secretary was instructed to reply accordingly and also to suggest to the Government that as experiments with Cauto Cotton were being carried through by the Director of Agriculture, experiments with Marie Galante Cotton grown under the same conditions, might be tried also with the object of finding out which was the best perennial cotton.

(An article stating the present position of the cotton industry is published in this Journal, page 136).

(*b*) *Panama Disease of Bananas.*—Letter from the C.S.O., No. 2822-2788/15, 4th March, 1915, was submitted transmitting copy letter from the Director of Agriculture on this subject.

Mr. Craig as Chairman of the Instructors Committee, stated that this had been dealt with by that Committee that morning.

(*c*) *Authorized Persons.*—The Secretary said that as Mr. McGrath at the last Half Yearly General Meeting had asked for a list of those "Authorized Persons" who had been struck off the roll, with the reasons why they had been struck off, he had written the Inspector General asking him to provide this, who stated that as his office staff was limited it would take some time to look up the record and prepare the return requested. He had only sent a note of the total number struck off, viz., 130. He (the Secretary) had not kept a record of these from the time the Law *re* "Authorized Persons" was passed, but he had prepared a list from the record for the last two years, which would give the Board a good average idea as follows:—58 persons had been struck off, of whom 12 had left the Island, 2 had left the districts, 6 had died, 12 had been appointed Rural Policemen, 5 had been found incapable, 3 had resigned, and 18 had been struck off for which no reason was stated. He had sent a copy of this statement to Mr. McGrath.

The Secretary also submitted the small pamphlet on the duties of "Authorized Persons" which he had been instructed to prepare and which had been submitted to the Assistant Attorney General and revised by him. He now asked authority for it. ` be printed. The Board decided that a copy should be circulated to each member of the Board first.

Mr. Craig said that while they were on this subject, he would like to nominate for appointment as an "Authorized Person," Harper

Ezekiel Tulloch, Danks Estate, Chapelton P.O. The Secretary was instructed to send forward this nomination to the Inspector General.

(*d*) *Estimates.*—The following letter from the C.S.O. was submitted:—

No. 3110-3087/15. 10th March, 1915.

"I am directed by the Governor to acknowledge the receipt of you letter No. 7364, dated the 23rd ultimo, in which you intimate that the Board of Management of the Jamaica Agricultural Society had revised the items on their Estimates, mentioned by you, so as to effect a saving of Five Hundred Pounds and thus meet the reduction of the grant to the Society from Five Thousand Pounds to Four Thousand and Five Hundred Pounds for the year 1915-16.

2. In reply, I am to say that His Excellency appreciates the readiness with which your Society fell in with His Excellency's suggestion that their Estimates should be recast to meet the circumstances of the reduced grant.

3. With regard to paragraph 3 of your letter, I am to explain that the remark of His Excellency quoted from the letter from this Office, No. 1780/2312, of the 11th ultimo, referred to the fact that His Excellency had been under the impression that there were two vacancies among the Agricultural Instructors."

(Sgd.) G. M. WORTLEY,
Actg. Asst. Colonial Secretary.

The Secretary said that there was some reason for paragraph (3); because the services of two Instructors had been dispensed with during the year and a saving of £400 made on these Instructors' salaries, but in place of these two Instructors, three Assistant Instructors had been appointed and were in training, at a salary of £150 per annum which made a total of £450; the deficit for this year had been made up from the saving between the time the two Instructors had left the service and the Assistant Instructors had been appointed.

Loan Banks.—Mr. Roxburgh asked if His Excellency could say whether the Government intended to allow an extension of time for payment to local Loan Banks which could show good reasons for such consideration as in St. Mary. His Excellency said that he would require notice to be given of such a question and he would reply at the next meeting.

The following letters from the C.S.O. were submitted:—

(*a*) *Worms in Yams.*—

No. 2038-2024. 18th February, 1915.

"I am directed by the Governor to transmit herewith for such action as your Board of Management may think it necessary to take in the matter, a copy of a letter from the Director of Agriculture relative to the reported prevalence of worms in the yams grown in some districts of St. Catherine, and a copy of the Microbiologist's report referred to by him."

(Sgd.) G. M. WORTLEY,
Ag. Asst. Colonial Secretary.

The Secretary said he had published the Report in the JOURNAL for March. He would like to draw attention to the fact that, after tests by the Microbiologist, the recommendation that had been made by the local Agricultural Instructor, Mr. Mossman, to soak the yam heads in lime wash, had been found the most effective and the most economical.

(*b*) *Free Railway Passes for Board.*—

No. 2343-2367. 23rd February, 1915.

"I am directed by the Governor to acknowledge the receipt of your letter, dated the 10th instant, reporting that at the Half-Yearly General Meeting of your Society a resolution was passed unanimously that the Government be asked to allow the members of the Board of Management of the Society free railway passes to attend the Meetings of the Society held in Kingston.

2. In reply I am to say that His Excellency approves of free monthly railway passes being granted to members of the Board of Management as requested, and I am to ask you to be so good as to communicate with the Director of the Railway, as to the procedure that may be necessary in order to give effect to this decision."

(Sgd.) G. M. WORTLEY,
Actg. Asst. Colonial Secretary.

Free Railway Passes.—Mr. Muirhead said that he observed on the certificate sent to him, a paragraph containing conditions which he had to sign, stating that " the railway is not liable for any injury to person or any loss of baggage which may occur while using the tickets, whether it is caused by the negligence of the railway or its servants." He ask whether these conditions were attached to all free passes on the railway.

His Excellency said that he did not intend that these conditions should have been attached to the passes given to the members of the Board, and he would communicate with the Director of Railway, and have another form of certificate issued.

Orange Oil.—The Secretary said that at the last Meeting, Mr. Muirhead had asked for a return of the exports of Orange Oil, and he (the Secretary) now submitted the following letter from the Collector General:—

No. 152-865. 24th February, 1915.

"In reply to your letter No. 7258, dated the 22nd instant, I have the honour to state that no separate account is kept of the Oil made from bitter and sweet oranges respectively. The exports of Orange Oil in each of the last two years were as follows:

1913	852 pkgs.	£13,742
1914	1440 ,,	£16,378

(Sgd.) A. H. MILES,
Collector General.

Competitions.—The Secretary said that the results of all the Competitions should have come in at the latest this month so as to be included in this financial year, but as he had reported at last meeting, it was impossible to get the judging in the Prize Holdings Competition finished in St. Mary where there were 125 entries; the judging was going on just now.

In St. Ann, the Instructor after consultation with the various Branches in the district, had recommended that the Prize Holdings Competition there, should be postponed for next year as conditions had been unfavourable in the extreme and the Competitors could not be ready.

The udging in the Special Competitions in Manchester could not be finished this month. It had often been recommended that in order to show what the Instructors were doing, and in order to create interest in these Competitions, the services of some gentlemen of the parish should be secured to help with the judging. This was all right in theory but it did not work out well in practice. The Instructors were bound by their Itineraries to do certain work at a certain time, but private individuals who were willing to co-operate with the Instructors, often found that private engagements at the last moment prevented their fulfilling their appointments with the Instructor, and so put him out.

The results in these Competitions in Manchester would be given next month.

The Special Competitions in Hanover, however, had been judged

by Mr. E. E. Melville, and he was able to present a most interesting report which would be published in full in the JOURNAL.

The judging in the School Gardens Competitions had all been got through. He asked for authority to pay the prizes won in these Competitions. This was authorized.

The Secretary also presented Reports *re* the Corn Growing Competition in Mid Clarendon got up by the May Pen Branch, and to help which the Board had granted £3. This fortunately had been a great success and the figures presented would be very interesting.

The Secretary said there had also been a Barbecue Competition in Clarendon for prizes presented by the Clarendon Show Committee.

He proposed to publish the results of all these Competitions in the JOURNAL. This was approved.

War Gifts.—The Secretary said he had published in the JOURNAL full statements of the War Gifts sent away. As he had now spent all the allocation made, and as the Orange and Grapefruit season was over, he proposed to close down.

His Excellency said it would be a pity to do this if anythimg more could be sent, and he would see if a further grant could be made by the Committee.

Mr. Roxburgh said that there would be a mid-year crop of Oranges in St. Ann, ready in about 6 weeks, and as they in that parish had not had the privilege of supplying anything already, as the Secretary could get more than he wanted more easily along the railway line he thought they might avail themselves of the opportunity to get Oranges from St. Ann.

Mr. Muirhead said that Oranges were out in Manchester, but there was still Grapefruit and there would be Lemons which would be very useful in the summer time.

The Secretary said that if the money was provided to pay the expenses of getting these War Gifts off, he would of course be glad to arrange to ship them. He had promises of considerable quantities of Preserves. He wanted Guava Jelly in particular, but the season for Guavas was not yet on. Instead of shipping the Preserves in small jars, he proposed to ship them in 10 lb. tins, as the cost of a tin was less than the cost of a jar containing 1½ lbs.

It was approved that the Secretary should send in a statement of the expenses for the War Gifts to date, to His Excellency, and arrange for further shipments.

Mr. Roxburgh said that as the Secretary had mentioned about Guavas, he might say that he found in parts of St. Ann that they could hardly get any Guavas because of the attacks of parroquets, and not only did these parroquets attack Guavas but the more important crop of corn to which these birds caused great destruction. He was of the opinion that these should not remain on the list of protected birds; they were very pretty but he did not know that they were of any use.

The Secretary said with regard to parroquets, while he was attending Meetings in Lower Trelawny, complaints were made by settlers there against these birds because of the damage they caused to the crops of corn. That district was now growing corn to a considerable extent, but the birds came down from the backwoods in clouds and destroyed the cobs just as they were ripening. He had promised to mention the matter to the Board. He did not think parroquets were insectiverous at all.

Mr. Craig said that before they took any decided steps about any birds, they should await the arrival of the Entomologist, who would make scientific enquiry into their habits.

The President said the Entomologist ought to arrive at an early date, and he agreed with Mr. Craig that they should defer doing anything in this matter until his arrival when due enquiry could be made.

Mr. Bertram quoted the case of the Channel Islands and Normandy. In the former birds were protected and they had no great trouble with insect pests; in the latter insect pests were a plague because birds were not protected.

It was agreed to await further enquiry by the Entomologist.

Proposed Tax on Bananas.—The Secretary said while he was away travelling, some members of the Board had asked the Acting Assistant Secretary to call a Meeting of the nearby members of the Board in order to consider the matter of the proposed tax on bananas by Canada, and he proposed to publish the Minutes to keep them on record.

Mr. Craig said that the Report in the Newspapers read as if it was a Meeting of the Board of Management; if it was, it was wrong, because all the members had not got notice.

The Secretary said the Minutes of the Meeting read as follows:—

"The following gentlemen, members of the Agricultural Society and the Merchants Exchange, and others, met, etc." This seemed quite in order. There had been no time to notifiy members in the country; those of the Board present were:—Sir Jno. Pringle, Messrs. Stedman, Campbell, Williams, Simmonds and Douet.

Banana Tax in Canada.

The following gentlemen, members of the Agricultural Society and Merchants Exchange, met at the office of the Jamaica Mutual at 10.30 a.m., on March 3rd, 1915, to discuss the sending of a cable in protest against the imposition of a tax on bananas by Canada:—

Sir Jno. Pringle, K.C.M.G., Hons. S. S. Stedman, J. R. Williams, R. P. Simmonds and D. Campbell; Messrs. A. W. Douet, D. S. Gideon and J. E. E. Armstrong (acting for Mr. J. Barclay.)

Sir Jno. Pringle explained the object of their meeting and the opinion of all was that although late it was very necessary that a protest should be made by the banana growers of Jamaica apart from the protest made by the Government, and a Committee was appointed consisting of the Hons. D. S. Gideon (Chairman), J. R. Williams, and S. S. Stedman, and Sir Jno. Pringle, with power to add to their number, to draft a suitable cable to be sent to the Finance Minister of Canada, and others also.

During the discussion the Hon. S. S. Stedman received copies of a cable which had been received by Capt. List of the United Fruit Co. The cable read as follows:—

"Banana tax question still pending. Strongest cables advisable should be sent Finance Minister Ottawa (more the better), cable us copies for publication. Suggest copies be sent Jamaican press who should cable Canadian correspondents, also suggest Sir John Pringle cable Mousir Secretary Canadian West Indian League Montreal informing him strong feeling in Jamaica against tax and urging that League actively oppose it."

It being near the hour for the Meeting of the Legislative Council, of which nearly all present were members it was decided to adjourn the Meeting to Headquarter House at 1.30 p.m.

The Meeting re-opened at 1.30 p.m., at Headquarter House and the following cable as from the members of the Board of Management of the Agricultural Society and addressed to the Finance Minister, Ottawa, was drafted:—

The cablegram from the Agricultural Society runs thus:—

"Finance Minister, Ottawa.

"Members Board of Management Jamaica Agricultural Society representing

agricultura interests, island, earnestly request Canadian Government reconsider and abandon proposed imposition tax upon Jamaica bananas. Diminished demand due to war conditions and diminished supply due to local drought already seriously affect export and revenue. Gravely apprehended that action contemplated will revive similar proposals recently abandoned in United States which would have been disastrous here. Small British Colony appeals to powerful British Dominion not to increase its difficulties in present common crisis of Empire by tax injury and menace of which the Jamaican interests will be greatly out of proportion to Canadian relief, and will even prejudicially affect growing Canadian intercourse and commercial interests in colony.

"Members Board Management Jamaica Agricultural Society."

Also one to the Secretary of the Canadian West Indian League by Sir Jno. Pringle, who is a Vice-President of this League, as follows:—

Secretary Canadian West Indian League, Montreal.

"Along with numerous others I greatly regret, on patriotic and commercial grounds, to observe that it is the intention of the Canadian Government to impose the tax on bananas, our premier export. I trust our League will promptly exercise its great influence in opposing such a tax which not only will affect our revenue at this critical moment, but may also be an incentive to similar action on the part of a great neighbouring country. In this Colony according to our means we have steadily endeavoured to foster, and build up patriotic sentiment and the common interests of Canada and Jamaica.

"I therefore deeply regret that anything should arise which may interfere with what we have hoped and still hope will expand into wider commercial intercourse.

"Sir John Pringle, Vice-president Canadian West Indian League, Jamaica."

One from the Merchants' Exchange:—

To Finance Minister, Ottawa.

"Chamber of Commerce Jamaica solicit Canadian Government to refrain from imposing tax on Jamaica Bananas. If Tax is imposed fear similar action by United States. Apart from this imposition of Tax will seriously restrict the already reduced markets for Bananas which are the leading export from Jamaica.

"As a small British Colony we appeal to you a Powerful British Dominion."

"S. Soutar, President."

Mr. Stedman promised to see to the despatching of the cables, also to the publishing of same in the Press.

The Meeting then adjourned.

Branch Societies—Affiliation.—Application for affiliation from the Thornton Agricultural Society, a district near Bath in St. Thomas Ye East, was submitted.

The Secretary said that the local Agricultural Instructor had approved of this Branch and the Instructors Committee recommended its affiliation. Affiliation was granted.

Instructors.—The Instructors' Reports and Itineraries for the month of February were submitted and directed to be circulated to the Instructors' Committee as usual.

Mr. Williams said he had been desired by the Instructors' Committee to make a report to the Board on the examination of the Assistants who had been appointed on probation. The examination was held on Wednesday, and three probationers, Messrs. Martin Rennie, E. A. Gunter and W. E. Watts had presented themselves. Whilst the results left much to be desired, still they were distinctly encouraging, particularly as the examination and the study required opened up new lines of improvement from which much might be expected. With regard to their practical work, the Instructors' Committee had relied on the report of the Instructors with whom the young men had been working. The Committee recommended:

(1). That Messrs. Gunter, Rennie and Watts be now appointed

assistants on probation for a further term of one year, subject of course to good conduct, etc.; and that they be required to undergo another examination on the prescribed course of study after nine months.

(2.) That uniform and suitable text books for their studies be procured at the cost of the Society and supplied to them at half price.

(3.) That in the course of the year at least one month should be devoted to work (principally study) and observation at Hope. It was expected that in this way the difficulties which these young men met in the way of study, while actively engaged in their duties, would to some extent be overcome. It was also recommended that Messrs. Gunter and Watts should remain under the supervision of Mr. Cradwick, whilst Mr. Rennie would be placed in lower Trelawny under the general supervision of Mr. Arnett with an addition of £50 a year to his present salary.

The report was adopted.

Statement of Accounts.—Statement of Accounts for February was submitted.

Statement of Accounts for the War Gifts sent was also submitted, showing the total number of packages sent as follows:—

	1247 packages of Oranges.
	514 packages of Grapefruit.
	2 packages of Lemons.
	3 packages of Ginger Sugar (containing 150 lbs.)
	5 packages of Preserves (containing 272 lbs.)
	5 packages of Banana Figs (containing 500 lbs.)
a total of	1776 packages.

Mr. Craig said that there was a matter he would like to mention which arose out of the previous Minutes, and that was with regard to the new Diseases of Plants Law, passed by the Legislative Council. He said as the Law now read he considered that it strengthened and amplified the recommendations of this Society, which they had thought perhaps rather strong. He though, however, that when the Field Inspectors were appointed they should be provided with a Certificate or Badge of Authority to show when entering any place. This suggestion was approved of and directed to be forwarded to the Government.

The President said that when the Law was assented to and published in the *Gazette*, they should try and get it known as fully as possible. Probably it would require to be revised as time went on.

New Members.—The following new members were elected:—

H. E. Henderson-Davis, Port Antonio.

Glaester Baxter, Spanish Town.

The Meeting adjourned until April the 15th, 1915, at 11.40 a.m.

FARINE I.

(Extract from Journal J. A. S., Feb., 1897.)

The making of farine in Jamaica, to my mind, is a matter of material importance; not only because it will provide a cheap nutritious and wholesome food for the people, but it will provide the means for storing the special products that are raised in those particular districts subject to periodical droughts. The question that naturally suggests itself is, why has farine not been made here already? especially when it is known that there are so many persons in the island who come from countries where it is largely manufactured and used and who understand its preparation.

Farine pans were put up in St. Vincent, chiefly at the time of emancipation, for the peasantry who grew cassava on the lands of the different properties not used for the cultivation of cane and were given permission to bring it to the pans to be cooked. When it is borne in mind that the people could prepare their cassava at home and within three hours after taking it to the pan, have it in a conditon ready for food, it can plainly be seen what facilities a pan provide for those unable to procure one for themselves. A man can rise in the morning and by the next, have his flour made and stored. Very often, indeed, after being grated and pressed by the Indian method of plaited reeds, the cassava is immediately cooked for use or storage. It having been found, years ago, in St. Vincent, that the erecting of these pans by the proprietors of estates was of such material benefit, directly to the people and indirectly to the owners, that their erection throughout the island became general. Many of those put up 50 years ago are still in use and when it is borne in mind that the purchase and erection of a pan of the diameter of six to eight feet would not exceed £25, and the enormous benefits to be derived therefrom, I live in strong hopes that if a pan is brought here and proves a success the owners of properties will take up the idea and import pans to assist their employees. In St. Vincent now the pans are often used by persons who manufacture farine for sale and derive handsome profits. It is sold there readily at about 5s. a bushel, say 2d. a quart. Farine will provide in some respects a superior food to wheat at one-third of the cost. It has a special flavour of its own, and the way of making it palatable is of so simple a nature that one cannot wonder at its popularity in St. Vincent and it may prove the same in Jamaica. The farine pan, I may add, is of a peculiar shape specially adapted for its purpose, and I hope in a future article to give a description of the same, with details, of the methods of manufacturing farine.

T. H. SHARP.

Eltham Park, Spanish Town,
Feb., 1897.

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FARINE II.

HOW IT IS MADE AND USED.

(Extract from J. A. Journal, Aug., 1897.

In continuation of the article I contributed to the February number of the JOURNAL and in fulfilment of the promise I then made of furnishing a description of the Farine Pan and the method of manufacturing and using the Farine, I now return to the subject. The

Cassava Committee appointed by the Board of Management of the Society have lately imported through Messrs. Park, Macfadden & Co., of London, a full sized pan, 7ft. in diameter. The pan is made of iron, circular in shape, open at the top, with slightly bevelled sides six inches deep. The bottom of the pan is level and is about one and a quarter inches thick, in order to better retain the heat. The pan has arms which rest on a brick foundation. A brick wall nine inches thick surrounds the pan and projects in a bevel shape four inches above the rim of the pan. This is done to prevent the farine splashing over while being stirred. It is hung two feet six inches from the ground so as to be at a convenient height for a man to lean over and stir the Farine. On one side is an aperture for firing and opposite, a couple of bricks are removed from the wall for letting out the smoke; no chimney is needed.

In the manufacture of the Farine a grater is necessary, which is constructed as follows:—On a wooden wheel, two feet in diameter, is nailed a strap of Muntz Metal, nine inches wide, with rough-edged perforations half an inch apart. The wheel has a crank axle attached to a treadle, so that a man may set the wheel in motion with his foot, and, holding the tuber in his hand, press it from a feeding board, against the revolving wheel and thus reduce it to coarse meal, which falls into a trough placed underneath for its reception.

A press is also required to force out the poisonous juice from the meal immediately after the grating is over. This is made in the following way: The bag of grated cassava is placed on the top of a barrel or box which has holes bored in it. A plank having one end fixed to a post or tree is laid lever fashion across the bag with weights attached to the other end and the bag as a fulcrum. A weight of 56 lbs. resting for 12 hours on 100 lbs. of grated cassava is sufficient to express the juice.

So much for the apparatus needed. I will now proceed to explain the method of manufacturing the Farine. The sooner the cassava is used after being dug the better. Fresh cassava will give good sweet Farine; all acidity must be avoided. The tubers should be scraped, not peeled, with an ordinary knife and washed. They are then grated on the machine before described and the grated material is put in bags under pressure where it should be allowed to remain at least 12 hours. From the juice thus extracted, if allowed to settle, a small percentage of starch may be obtained and the remaining liquid can be made into cassareep after being thoroughly clarified.

After the grated cassava has been sufficiently pressed it is taken from the bags and passed through a coarse sieve—an ordinary mason's sieve does well—to separate the particles and remove the small portions of roots that were not properly grated.

A wood fire is now lighted under the pan, which is allowed to become slightly warm, great care having been taken to spread the fire under the pan so as to equalize the temperature. The cassava is thrown in and, by means of wooden rakes, it is spread evenly over the surface of the pan, the temperature of which is gradually increased by adding light fuel—split bamboo, etc. The Farine must be kept continually stirred until it is thoroughly cooked, when it will have a rich brown appearance, slightly tinged with yellow and form crisp sweet-smelling grains. During the process of manufacture the poisonous principle still existing in the cassava is removed by evaporation and the fumes may be distinctly detected by smell as they rise from the pan. Great

care is necessary to properly cook the farine. If this is successfully done as soon as water is applied to the Farine it will commence to swell to many times its original bulk. If improperly cooked it will swell very slightly if at all, and have a raw insipid taste. A small amount of salt is added to the cassava while it is being cooked in the pan. After it is cooked the Farine is again sieved and allowed to cool. The success of making Farine chiefly depends on preventing any acidity starting and the handling of the material in the pan so as to secure a uniformly cooked product, and not allowing the temperature to rise high enough, to destroy the grain of the starch while the Farine is damp.

The ordinary labourer in St. Vincent simply ties a portion of Farine in a loose piece of cloth which he immerses in water for an hour. It swells into a large ball like plum pudding and is eaten along with his fish, pear or sugar, as the case may be. Before placing it in the water he generally adds salt and pepper to his taste. There are other more palatable ways of using Farine, however, and I quote a few recipes:—

Porridge.—A very simple mode of preparation is to place 2 tablespoonfuls of Farine in a half-pint of water. After soaking for 20 minutes, boil for 5 minutes in half-a-pint of milk or water. Serve as porridge.

Puddings.—To make puddings. Take of Farine half-a-pint, add one and a half pints of luke-warm water, and allow to remain for half an hour, stirring frequently. Whisk three eggs, and add to the eggs one pint of milk, adding sugar and spice to taste. Thoroughly mix and bake in an oven for 30 minutes.

Fritters.—To make Fritters. Take of Farine half-a-pint; add five parts of milk and two ounces of flour, one egg, sugar and spice to taste. Thoroughly mix and fry in an open pan. Before serving sprinkle a little sugar over them.

Farine has excellent keeping qualities and if placed in a dry covered receptacle, without being hermetically sealed, will keep for a year or more.

T. H. Sharp.

Eltham Park, Spanish Town,
25th July, 1897.

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FARINE.—III.

(*The J. A. Journal, Dec. 1897.*)

I am very pleased to find that Farine has been placed upon the market, and that it can be obtained in Kingston. I have tried the quality that is being sold by Messrs. Pinnock & Co., and would pronounce it very good indeed. Since my residence in Jamaica I have often wondered why it was not generally used. From my earliest recollection I have used Farine, being a native of Grenada, where it is extensively used by all classes. I am convinced it is one of the most nutritious and valuable vegetable products. It can be used in such a variety of ways, either uncooked or cooked. I remember as a boy we used to mix it with sugar and eat it, dry, or mix it with our sugar and water. We would sometimes pour boiling milk over it and sweeten it. It can be used with cold water and then some meat sauce poured over it. It makes a most delicious pudding. It may also be mixed with avocada pear. As boys we always preferred farine to yams, cocoes, or sweet potatoes, and I believe if farine was better known it would be highly appreciated. I have been recommending it to my friends, and I shall be glad if it could be introduced in the markets on Saturdays and sold by the quart as it is sold in Grenada, Trinidad, Tobago and St. Vincent.

S. L. Lindo.

Port Antonio, 3rd Nov., 1897.

FARINE IV.

(*Journal, October, 1900.*)

As a result of the lifting of the cassava from between the vines at the Grape Farm, the Society has now a considerable quantity of well made Farine on hand.

Farine forms an economical and nutritious food. It is manufactured from Bitter Cassava, which is peeled, and grated; then the wet white pulp is put in bags and the juice pressed out of it. With the juice a *small quantity* of starchy matter escapes, which may be utilized as dry starch for laundry purposes or made into tapioca, (by heating it in the same manner as with the Farine, when the starchy particles swell and form the glutinous granules of the tapioca of commerce,) otherwise the whole nutriment of the cassava is contained in the Farine. The damp mass, like a loose, rough dough, is then placed upon a large iron pan, which in this experiment of the Society weighs a ton, and while being baked with a gradually increasing heat (but never a great heat) above a wood fire, is kept raked to and fro with long handled wooden rakes, (or common garden rakes do well,) until it falls into white or light brown granulated particles like bread crumbs, some fine, some coarse. This is spread out thinly to let any steam contained in it escape else the particles might cake together, and when dry and cool it is ready for use. Farine swells in water to at least thrice its own bulk. It is very nutritious, and it is very digestible because the baking transforms most of the starchy matter into dextrine. Just as for a dyspeptic patient the Doctor will probably order well browned toast in place of the ordinary white bread, knowing that by the toasting of the wheat flour bread, a chemical change takes place in the starch of the flour, making the bread more easy of digestion, so Farine has therefore something of the composition of the toast ordered as easy of digestion. It makes excellent Porridge, Puddings and Pap, and can be made into very good sweet cakes and dry cakes or biscuits. All through tropical South America, Cassava, or Mandioca as it is called in Brazil, Yucca in Colombia, is very largely grown, and the Farine manufactured from it is the staple farinaceous food of the great mass of the people; it, indeed, at once performs the duty fulfilled by the wheaten flour, oatmeal, cornmeal, barley and rice of other countries. Edwards in his "Travels on the Amazon" writes: "The food of all the classes doing manual labour throughout the province (Para) consists principally of fish and farinha—the latter a preparation of the Mandioca root. This plant, botanically, is the 'Jatrophus Manihot,' known in the West Indies, as Cassava. The tubers are shaped much like sweet potatoes, and are a foot or more in length. They are divested of their thick rind and grated, after which the mess is placed in a slender bag six feet in length; to this a large stone is appended, and the consequent extension producing a contraction of the sides, the juice is expressed. The last operation is the drying, which is effected in large iron pans, the preparation being constantly stirred. When finished it is called farinha or flour, and is of a white or brown colour according to the care taken. In appearance it resembles dried crumbs of bread. Farinha is the substitute for bread and for vegetables in Brazil; the Indians and blacks eat vast quantities of it."

And Professor Alfred Russel Wallace, the eminent naturalist, writes in his "Travels on the Amazon": "I was quite puzzled to find out when the Indians had their meals. In the morning early they would eat some dry farinha cooked or a roasted yam; and in the evening some more farinha or plantains. I could not imagine that they really had nothing else to eat, but at last was obliged to come to the conclusion that various preparations of mandioca and water formed almost their only food. My hunter never took anything out with him but a bag of dry farinha, and after being away 14 hours in his canoe would come home and sit down in his hammock and converse as if his thoughts were far from eating, and then when farinha and water was offered him would quite contentedly drink it and be ready to start off before daybreak the next morning. Yet he was stout and jolly looking."

In the island of St. Vincent and other of the West India Islands Farine has always been much used as food, and children practically brought up upon it. In Jamaica it has not been much used; native foods are not good enough for us; we prefer to use as much as possible that which is imported, but until native products are more largely in use, we cannot truly flourish, for it is not as if Jamaica was a manufacturing country with so many people engaged in industrial concerns that but very few had time or opportunity to cultivate the soil. Practically every body depends on agriculture, yet we patronise very largely and very needlessly the agricultural products of other countries. The Agricultural Society made an attempt some years ago to popularise Farine but it was not sustained enough. It made experimental cultivations of cassava, manufactured Farine from it and put it before the public. Again the Society brings the merits of this nutritious native article of diet to the notice of the people of this island, but it cannot force the attention of the public, it can only call attention to the Farine, give the public opportunity to use it, and explain how it is made; and it has already given practical demonstrations throughout the country on the manufacture of Farine. At any rate there is no doubt as to Farine being a useful and nutritious food, and it ought to be well patronised.

J. B.

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CASSAVA FARINE—V.

(Extract from Journal, June, 1909.)

Cassava has been introduced into the famine districts of India chiefly by the efforts of the Salvation Army. It is stated that the district of Travancore has not suffered lately from famine, but formerly it was subject to famine and scarcity until cassava was introduced, and this has proved a splendid famine resister. In India the large tuberous roots are boiled, sliced and sun-dried and made into a flour, which can be either eaten alone or mixed with another flour, according to the tastes and resources of the family. Another advantage of the cassava in drought-stricken districts is that it does not need to be harvested like grain, but it can be left in the ground for months without spoiling. In this sun-dried form it can be kept for years and it can be transported to other climates. . . . .

Now here we read of cassava being grown to save people from drought and famine in India, and it has already proved itself a benefactor in one district. Our experiences of drought here, bad as they have been in St. Elizabeth and South Manchester and St. John's, are as nothing compared to the droughts experienced in parts of India. Cassava is grown in many districts in Jamaica largely. It will keep in the ground and grow all the while through the worst drought, it can be kept also in the form of slices sundried, to be beaten into flour at any convenient time, or it can be made immediately into one of the finest meals amongst our farinaceous foods, in the form of farine, which is both tasty and nutritious. There is not the slightest reason whatever with such soil and climate as St. Elizabeth has, in spite of dry weather, for there to be such distress as there has been, in our experience, twice within a period of ten years. We wonderwho has proved correct—the Agricultural Society in its advocacy of cassava and farine, and its efforts to make the storing of food a matter of economy, 10 years ago—or the many sneerers at these efforts when they were made. We could never understand the minds of those who so often stated that the idea of using cassava-farine as a staple food was all "foolery," "tommy-rot," and all the rest of it, while we import farinaceous foods made from wheat, oats, barley, etc., when farine is in general use throughout Central and South America, was in actual use here before any of the present generation was born, and at the time of our efforts, was being used with good results at the Girls' Reformatory at Stony Hill and in some households. When tried at the Penitentiary, the prisoners expressed the opinion that they would rather have cornmeal, yet many of these people came no doubt from the very districts where they had been partly brought up on cassava. It was really a curious state of affairs, that prisoners should have their likes so much considered. Farine was not of course then as cheap as cornmeal, simply because it had been made experimentally by the Society, but it could have been made cheaper.

In dry districts we need very little solution of the food problem; there can be plenty of food at all times. What we need to try to overcome is the custom of thriftlessness, the lack of foresight, and the habit of depending on help when we get into difficulties through any untoward circumstances, particularly drought. We are of the same opinion now as we were then, that the Agricultural Society through its propaganda, and local Agricultural Societies, heartily backed by ministers of religion and teachers in schools (as we are glad to say our efforts are well backed now), and thinking people in general, will solve the problem,—if there be any—of preventing distress through drought at any time.

Cassava is the greatest among all our food crops as a drought resister, and one that can be made still more useful in all districts subject to drought than it is if the thrifty habit of making Farine becomes general.

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COWPEAS.—In an article on cowpeas published in the *Agricultural Gazette* of New South Wales (August 1914), it is stated that in manurial trials at the Hawkesbury Agricultural College, phosphoric acid proved to be undoubtedly the most important manurial ingredient for this crop. Sulphate of potash, though it increased the yields, was too expensive; while nitrogenous manures, especially nitrate of soda and sulphate of ammonia, were decidedly detrimental.

CASSAVA AND FARINE.—VI.

(*From Journal, June, 1910.*)

We have helped as much as we could, in the endeavour to get a cassava industry, for making starch, developed in the Island, yet all the time we have felt that we really do not require to wait on outside capital coming in, either to establish starch factories or buy dried cassava, as we know that the price of cassava starch in the world's markets competing with potato starch, cannot warrant the price asked for cassava by many present prospective growers, viz.: 2/6 per cwt. in the field. Figuring on a 5-ton yield of roots and 25 per cent. of starch, would give say, one and one quarter ton starch at £14 per ton in London,—£17 10s. the first cost of roots say even at 40/- per ton would be £10; there is transport, manufacturing and other expenses, so that judging by all this and the experience of the two starch factories already working, starch cannot be produced at a profit if the cassava had to be bought at 2/- per cwt. in the field. Nor can such a high price as £14 per ton be depended upon.

Now we import farinaceous foods to an enormous extent,—enormous, considering our population and that we are an agricultural and food-producing country, producing foods for human consumption, and that large tracts of the Island do not produce such exportable crops as we presently make money from. Of flour we import £245,000 worth and of cornmeal, £37,000 worth, rice, £50,000, besides such horse-feeds as corn, £47,000, oats, £11,000. That is about £330,000 worth of flour, cornmeal and rice are imported here, in addition to small quantities of prepared foods put up in packets.

Now cassava is a good food, as a root, bettter than Irish potatoes, and possessing besides, the valuable quality of being made by a very simple process,—which anyone can do—into meal. To make flour from wheat, and meal from oats, requires elaborate processes, and even meal made from corn by hand is a laborious and tedious process. Generations of people in the West India Islands, long before wheat flour was brought here in the quantities it now is, and long before it was known at all indeed, had as their chief food cassava farine, and to this day, the Indians of Central America and South America, live on farine as their staple food, and they are usually strong and healthy people, able to do heavy, prolonged, physical labour.

Now, why should we then, with our boasted capabilities for raising cassava by thousands of tons, require to depend for our farinaceous food on shop-flour and cornmeal, and whenever a pinch of drought affects us, be obliged to live on shop stuff and get in debt over it? Why! the dry districts should be exporting farine to other parts of the Island all the time.

Now we wish to figure it out:—Five tons of cassava roots from an acre of land (which should be the minimum from a well-cultivated acre), will give about one and one-quarter tons of starch, the making of which is elaborate and prolonged and therefore expensive process. This is worth in foreign markets £14 per ton or 1½d. per pound, therefore in quantity would probably not be worth more than £10 here, if it was a large industry and the product was bought by merchants to be shipped. But five tons of cassava roots made into farine will give nearly one and three-quarter tons, the process of making which is cheap, and this product is not easily spoiled and

made unmarketable, like starch. Now cornmeal sells wholesale at £1 per 196-lb. barrel, and flour at £1 10s. per 196-lb. barrel Cornmeal is sold retail at 1¼d. per pound and flour at 2d. per pound ; in the country parts dearer than these figures. From one ton of cassava roots—2,240 pounds, we get say 746 2-3 pounds of farine, and this at 1d. per pound gives us £3 2s. 2d.; five times this gives £15 10s. 10d. per acre, less cost of labour. But pound for pound weight, farine goes further than cornmeal; it swells even more than rice.

We think farine could be put in the market on a general scale at the price of 1d. per pound wholesale, to be sold retail at 1¼d. to 1½d. per pound.

Our chief object, however, is to draw the attention of those who have cassava in quantity, to the economy of farine, that they cannot find sale at once for to make it into farine. We have used it regularly in porridge, puddings, etc.,—have used it for feeding dogs and fowls, and when we can get it in quantity, even at the same price as cornmeal, will use it again.

(These prices are all of course pre war figures).—Ed.

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CASSAVA FARINE.—VII.

(Journal, April, 1913.)

Cassava makes an excellent meal, the palatable, digestible Farine, the staple food in large regions of South America.

Why should we import so much Cornmeal (£35,000), and flour (£255,000) and turn up our noses at Farine.

Forty bushels of corn is a large return per acre (the average now over all the United States is only 15 bushels) and it gives about 80% of cornmeal, but no by-products are wasted. Five tons of cassava is an ordinary yield here per acre in ordinary years. This give one-third of its weight in Farine or 3,733 lbs. This at 1d. per lb. would yield £15 11s. 1d. on one acre. It could be sold at 1¼d. per lb. retail. Cornmeal costs 1½d. per lb. retail in Kingston. Good cultivation of the cassava and a large yield per acre, 10 tons being no extraordinary yield, would enable Farine to be sold at 1d. per lb. retail.

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CASSAVA FARINE.—VIII.

(Journal, May, 1913.)

Following up our remarks in last number *re* the making of Farine from Cassava as an economical industry, and the use of Farine as an economical and efficient food, we give the following experience:—

The cassava industry is one that interests me greatly. We have had some experience in the use of cassava foods in this institution, unfortunately not as much as we would wish, for the simple reason that the supply ran short. But for the few months that we had (1) Cassava meal and (2) Farine from Mrs. Fray's Spring Plain Factory, we were greatly pleased with both articles, and they were enjoyed in various forms by the inmates. I believe the Farine is what some foods of higher dietatic value *according to analysis*, do not prove to be, that is *easy of digestion*.

We use (1) Cassava meal for porridge, and dumplings, very satisfactorily; and (2) Farine as a breakfast or supper food, eaten either

softened in milk, or dry, like the patent food "Grapenuts" and "Force."

We have found that properly prepared and *sufficiently cooked*, the cassava products are excellent along with other ordinary foods. They make acceptable variety, and with a proper balance of meat and fats, are both palatable and nourishing.

We found the Farine the most digestible, as it is dehydrated and partially dextrinated starch, and quite suitable food for growing children as well as adults.

I earnestly hope that your project will be carried through as it deserves to be.

In time we will hope for banana meal, and Jamaica cornmeal not spasmodically—but regularly to be had.

* * * * *

I can most certainly add to my letter that all the cassava foods we have used here at intervals extending over many years, whenever procurable, including the very creditable production from your Society (and what we have been able to grow and prepare for ourselves) have proved to our entire satisfaction, their great value. I shall be very glad when it is possible to have a regular supply.

I have taught several of my friends to like the farine, and with some advertising and personal effort in making it known, there ought to be ready sale for large quantities. Many people in this district are continually asking me where it is to be had, and when I will be likely to get some more. The crisp, nutty farine, requiring no cooking, and so attractive in appearance and taste, made quite a good reputation among those to whom I gave samples. If it can be sold fairly cheaply, there is a great future before it as far as I am able to judge. (Miss) C. NUTTALL, Belmont Industrial School.

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COTTON GROWING.

The year 1914 was over a large part of Jamaica one of the very worst on record for small rainfall. If it was dry over some parishes which have ordinarily a very good to a very large rainfall—like St. Mary, Eastern St. Thomas and Portland—the condition of agriculture in what we have come to call the dry districts (when they are not termed the drought stricken districts) may be imagined—we will not attempt to describe them. Sufficient to say that little rain fell from early in the year, and at the end of 1913, the rainfall had not been profuse as it should be, so that the land was not saturated with moisture to start the drought with, but was already dry.

It was under such conditions late in 1913, that this Society started some systematic experiments in growing Sea Island and the Sakellarides variety of Egyptian Cotton. Usually, to get the best crop of cotton one should plant from the middle of August to the middle of September, but there was not enough rain in Southern St. Elizabeth or Southern Manchester to start the growth of seed until October. The plots were grown in different ways, the original plan being to compare the resulting crops; but owing to the re-sowing that had to take place, throwing parts of the plots very late and to the fact that there were practically no results in two of the plots as rain enough never fell to help crumble the clods which no amount of pulverizing by hoe or fork

could ever have made fine. The kind of weather to bring about such conditions may be pondered over. Planting was done by chop holes made by the hoe in hard ground, in forked holes, and in parts of the plots the soil was forked all through. Part of some plots were mulched, part not mulched. Owing to the drought it was difficult to find enough dry Guinea Grass even to mulch with and recourse had to be made to the foliage of mango and other drought resisting trees. Hence the very high cost of the mulch, but this was justified as it ensured some crop through the severe dry weather when otherwise there might have been none. We present statements of accounts of two plots. No. 1 was grown in red soil, a very hot place, but when there is rain, a fast growing and productive place. The soil was new and good. We have eliminated a few items of expenditure which are rightly charged to permanent expenditure—such as stumping and fencing. Even the cost of clearing the acre might not all be charged to one crop of one season of six months.

Under the circumstances this cotton did very well. It would have shown better financial returns if a catch crop had been grown through it like No. 2.

This No. 2 was grown by the Agricultural Instructor himself, but had no close personal supervision as he has, in the course of his duties, to be away every week day and over half his time at night too.

What he can do careful small settlers in those very dry districts should also be able to do. Catch crops are a necessity for the small settler; they are an insurance that he will reap something and are a compromise between the local food crop and the export crop.

COTTON PLOT. (Instructors).

NEW FOREST COTTON PLOT, 1913-14.

		£	s.	d.
1913.				
Aug. 7th	For clearing on account		10	0
Aug. 13th	Forking and roots taken up on account ..		5	0
Aug. 20th	Clearing (bal.)		8	0
Sept. 5th	Forking (bal.)		15	0
Sept. 11th	Planting		6	6
Sept. 11th & 12th	Planting		6	6
Oct. 9th	Weeding on account		2	0
Oct. 22nd	Weeding (bal.)		2	0
Oct. 22nd	Mulch	1	1	0
Nov. 19th	Dusting with Paris Green		1	0
Nov. 24th	Resowing		1	0
Nov. 24th	Weeding		3	6
Dec. 10th	Dusting and Resowing		2	6
1914.				
Jan. 9th	Weeding		5	6
	Picking	1	0	6
	Bags, cartage, wharfage, freight ..		18	6
	Actual cost of Cotton	6	8	6
	Reaped 601 lbs.—175 nett at 1/- per lb. ..	8	15	0
	Net Profit	£2	6	6

One acre—1913-14.—II.

EXPENDITURE.

			£	s.	d.
July	1913	Clearing land	0	16	0
Aug.	,,	Drills, 9 ins. wide, 8 ins. deep, rows 4 ft. ..	1	1	0
Aug.	,,	Guinea Grass Mulch, and horse manure—1 handful to each hole	3	15	0
Sept.	,,	Planting		8	0
Oct.	,,	Resowing about three-fifths of the whole acre		5	0
Oct.	,,	Weeding		6	0
Oct.	,,	Buying of Red Beans & Planting ..		12	0
Nov.	,,	Weeding		6	0
Dec.	,,	Reaping Red Beans—cost		9	6
Mar.	1914	Corn Planted		2	0
April May & June	,,	Cotton picked	1	2	6
July	,,	Corn reaped—cost		7	3
July	,,	Bags for cotton, cartage, freight & wharfage	1	1	0
			£10	11	3

INCOME.

			£	s.	d.
Dec.	1913	Red Beans reaped and sold—12 bus., 5 qts.	7	5	10½
July	1914	Corn reaped and sold—14 bus., 12 qts. ..	2	17	6
		Cotton reaped, shipped from Ginnery to Liverpool and sold—nett	11	5	0
			£21	8	4½

Not more than seven-eighths of the total area of cotton planted grew, and at the time of sending away seed cotton gathered, fully 100 lbs. remained unpicked. The same acre was remulched in August, 1914, at a cost of £2 12/-. Cassava was planted in September and Red Beans and Corn in October. The return from Red Beans and Corn was 14 bushels and 6 quarts, and corn (still on cob) estimated at 10 bushels. If the return of the cassava be as 2 acres reaped at a year old last December and the rate be the same, the amount would be £23.

(Sgd.) E. J. SMITH.
8/3/15.

	Cost.	Yield.	Gain.
Red Beans	..£1 1 6	£7 5 10½	£6 4 4½
Corn ..	.. 9 3	2 17 6	2 8 3
Cotton	.. 9 0 6	11 5 0	2 4 6
Total	£10 11 3	£21 8 4½	£10 17 1½

The mulch which cost £3 15/- is charged to this one crop of cotton and not to the beans and corn, so are the weeding expenses of £1 8/-. If the costs of these were charged pro rata there would be £1 11s. 0d. to add to the profit on the cotton.

When expenses are charged *pro rata*, Statement stands:—

	Cost.	Yield.	Gain.
Red Beans	..£2 3 6	£7 5 10½	£5 2 4½
Corn	.. 18 3	2 17 6	1 19 3
Cotton	.. 7 9 6	11 5 0	3 15 6
Total	£10 11 3	£21 8 4½	£10 17 1½

Under ordinary market conditions this cotton which was of very good quality would have fetched about 1/6 per lb.

JNO. BARCLAY,
Secretary.

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COTTON.

Undoubtedly Cotton would be an excellent addition to our staple crops, the more of which we have the better, as the fluctuations of trade in various products during the past few years have proved. especially to small planters. In all the dry districts there has been difficulty in finding suitable crops for export. Cotton is a suitable crop for the conditions of these districts and is at once a good crop for the larger planter and the small grower. Experiments have been made with various kinds of Cotton, but, so far as all our experiments have gone, Sea Island Cotton is the best yet. It has, however, its a drawbacks It is a very high class Cotton and a low grade of it is hardly saleable. It has either to be good or it is hardly worth growing at all. Small settlers as a rule do not take such care in the cultivation and picking as will produce a first class staple. Then again, as is the general rule with plants producing a high class of product, it is more delicate than other robust Cottons producing a lower grade. The common Cotton grown in the United States is Upland Cotton, but that would not pay us to grow here. The next grade of Cotton to Sea Island is Egyptian Cotton, and we have also tried experiments with it. There are different kinds of Egyptian; those tried have been stronger growers than Sea Island as a rule, and have given larger crops (but not the Sakellerides variety), but the nett results have not been any better. In some countries where comparatively large quantities of Cotton in the aggregate, come from the very small growers, it is a cheap Cotton that is grown which does not require planting every season, called in books a perennial Cotton. We tried one of these before, that was greatly boomed at the time, called Caravonica Cotton. There were two varieties of this Cotton—silk and wool. This Caravonica Cotton was bred and introduced by Dr. Thomatis, Queensland, and experiments were tried with it in almost every tropical part of the world. It was a Tree Cotton, i.e., it grew into a large bush, gave large crops, and if pruned, went on bearing from season to season and bore a class of Cotton of pretty much the same value as Egyptian, which was about one-third less in price than a

moderate Sea Island Cotton. It was claimed not to be subject to attacks of caterpillars and Leaf Blister Mite as Sea Island Cotton was, being more robust. As we have stated, there were two varieties of this Cotton—silk and wool, the silk was stated to have been bred from a Cotton of the Sea Island variety, from the borders of Peru and Brazil; the wool variety being a cross of these on Peruvian Kidney Cotton. When grown, however, under the same conditions as Sea Island Cotton, Caravonica Cotton, both silk and wool, was not much of a success here; those growers who tried it along with Sea Island, preferred the latter. At first Caravonica seemed to be immune from attacks of caterpillars and Leaf Blister Mite, but later on was proof against neither. A good many years have elapsed since we dropped Caravonica here (since 1908) and now there is again a good deal of talk about growing a perennial or ratooning variety of Cotton.

In the Grenadine Islands, which stretch between the Island of St. Vincent and Grenada, a variety of Cotton has been grown for many years successfully, called Marie Galante. It has always found a regular market in Liverpool as a medium class of Cotton worth about the same as moderate Egyptian, and the same price as Caravonica Cotton used to be quoted at. Strange to say, however, no experiments have been tried here with Marie Galante before.

Two years ago, some people from the United States interested in the manufacture of cheap goods—a mixture of wool and cotton—and for whch a woolly kind of Cotton was desirable, came here after having spent some time in Cuba, and produced seed and samples of a lint of a Cotton stated to have been discovered in Cuba, where they stated they had tried experiments in growing this cotton, and for which they made very much the same claims as were made for Caravonica Cotton. They called this Cotton, Cauto Cotton, from the Cauto River and Cauto district in Cuba, and they wished to grow it here, but they reserved every right in the Cotton as their own, which was quite natural. Seed could only be got through them, and all crops raised and all seeds raised here were to belong to them, at a certain price to growers.

Any Cotton that would likely suit our purposes here should be tried, but it should be tried first experimentally on a small scale, and it did not seem to us quite a safe thing to start out and grow a Cotton new to us, largely, without experiments having first been made.; We remember the claims of Caravonica Cotton and the results. We also remember that we had considerable correspondence with people in the Eastern part of Cuba some years ago where the district of Cauto is, especially a large Norwegian Colony who were anxious to grow Cotton. We sent them seed of Caravonica, and they also got a large quantity direct from Dr. Thomatis in Queensland. This was in the years 1907 and 1908. There was at Monte Christe in Eastern Cuba, in one cultivation, 15 acres of Caravonica silk, and 50 acres of Caravonica wool Cotton. These Norweigians and others had made enquiry everywhere about a suitable perennial cotton for conditions in Cuba. There were scientific men in that Colony, and it would be presumed that if any wild indigenous Cotton had been growing at that time anywhere in the Eastern part of Cuba, they would have discovered it and tried it; but they did not mention any native Cotton in correspondence with us. Owing to conditions in Cuba afterwards, we believe that this Norwegian Colony was broken up, and the fields of Cotton were thrown up. Then a few years later a wild Cotton is

found growing in the same neighbourhood and is brought here as Cauto Cotton; when it grew and when it bore, it looked similar to Caravonica wool Cotton. We could find, however, no more Caravonica Cotton growing that could be guaranteed as such to compare with this Cauto. This does not matter much, if it is successful now, but care should be taken not to plunge too heavily in any Cotton without careful test first.

Mr. Conrad Watson has grown more Cotton than anybody else here, commercially, and has two small fields one of Cauto Cotton and one of Marie Galante, under the same conditions. When the crops are reaped and marketed we shall know which is the better for our purposes. It has always to be remembered, however, that Marie Galante has an open market in Liverpool.

The Market Report of the British Cotton Growing Association on a sample of Cauto Cotton sent them dated the 1st May *last year*, states:—

"Sample Cauto Cotton—Clean, good cotton sample, long, strong, moderately rough, suitable for mixing with wool. Value 8d. to 9d. nominal, but not very freely saleable."

That was in pre-war times when the demand for our Cotton was good.

The Report on Marie Galante Cotton from the British Cotton Growing Association, dated January 25th this year, in war time when the demand for Cotton was almost nil, states:—

"Marie Galante Cotton sells fairly rapidly when the conditions of the market are *normal.*"

Sea Island Cotton in similar times has always a good demand if it is really a good staple.

Our Agricultural Instructor for Southern St. Elizabeth grew an acre of Cotton in the same careful way he grows crops of Tobacco and Cassava. He grew two catch crops through the Cotton, first, a quick growing crop, Red Kidney Beans, and the sale of these exactly cleared the cost of growing the Cotton: later on as the Cotton seemed likely to be a long drawn out crop owing to unfavourable weather conditions, he planted corn also, and when the Cotton was thrown up, he had corn coming along. Of course the biggest item in cultivation in these very dry parts is mulching, but this ensures a crop all through long continued drought, and of course the mulch when it rots away is manure and the soil is replenished in fertility. The cost of the Cotton cultivation alone was £4 15s. 6d., mulching cost £3 15s. the cost of the Red Beans and Corn planted, and the planting expenses and reaping of these, amounted to £2 1s. 3d. The total expenditure on the acre was £10 11s. 3d. Receipts from the Red Beans for the 12 bushels 5 quarts sold amounted to £7 5s. 10½d. The corn produced 14 bushels 12 quarts valued at £2 17s. 6d., and the Cotton after being sent to the Ginnery with expenses of freight, shipped to London and sold there at war prices, i.e., 1/- per ℔, instead of 1/3 per ℔. in ordinary times, fetched £11 5s. The total income from the acre was therefore £21 8s. 4½d., and the total nett profit £10 17s. 1½d. The weather was so dry that the Cotton had to be re-planted twice and even then not more than seven-eighths of the total area planted, grew. The planting was late and the Cotton had to be reaped and sent to the Ginnery while there was still a lot to be picked.

Now every careful small settler in Southern St. Elizabeth or other dry districts could do the same. But Cotton has usually been grown carelessly as corn is usually grown instead of as carefully as tobacco is usually grown. Then it will give a good crop of a good staple.

We have still hopes of a good cotton industry for some of the dry parts, when the war is over, and this Society is at any rate still carrying out a few experiments with Sea Island Cotton in Southern St. Elizabeth while the Department of Agriculture is trying Cauto Cotton in the same locality.

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SPECIAL COMPETITIONS IN HANOVER.

REPORT OF JUDGE.

Great Valley,
Flint River P.O.
March 13th, 1915.

Sir,—

I enclose herewith statement of marks earned by Competitors in the Special Competitions for the parish of Hanover for the year 1914-1915, and my award of the prizes offered which are as follows:—

For the best Cottage ..	1st. Prize	£3	
	2nd. "	2 10/-	
	3rd. "	1 10/-	£7 0 0
For Coconut Grove ..	1st.	£2	
	2nd. "	1 10/-	
	3rd. "	1	£4 10 0
For Small Cane Factory ..	1st. "	£2 10/-	
	2nd. "	1 10/-	
	3rd. "	1	£5 0 0
For Yam Field ..	1st. "	£1 10/-	
	2nd. "	1	
	3rd. "	15/-	£3 5 0
For Cocoa Grove ..	1st. "	£1 10/-	
	2nd. "	1	
	3rd. "	15/-	£3 5 0
And a sum of 40/- to be awarded by Judge at his discretion			£2 0 0
Total to be awarded			.. £25 0 0

In the House Class, Competition was keen, and the first 5 on the list being so nearly even, I have bracketed the first 2 for 1st. and divide the 1st. prize between them, awarding £1 10/- to Mrs. Ann Davidson of Hopewell, Flint River P.O., and £1 10/- to Miss Ann Brown of Salt Spring, Green Island P.O. I have added the 2nd and 3rd prize money together and divided it equally between the next three on the list, awarding to Robert Cordogan of Cacoon, Riverside P.O., £1 6s. 8d.; to Benjamin Pinnock, of Cacoon, Riverside P.O., £1 6s. 8d., and to Agatha Cordogan of Cacoon, Riverside, P.O., £1 6s. 8d.

The prize winning cottages are quite above the average and are a great credit to their owners. They were all very clean and well kept and in some instances the furniture arrangement and wall decorations evinced the aapplication of some artistic taste.

I enclose photographs of 3 of the cottages, with apologies for the lack of their pictorial value, the situations of the cottages do not lend themselves to picture-making. I enclose photo of a cottage of another description, which was not entered in the Competition, as a contrast. It is to be regretted that this kind of house is still so much in evidence, though it must be admitted that from a pictorial point of view, it takes the cake."

The Coconut Competition was fairly good, and shows considerable care and attention to the teaching of the Agricultural Society and the Travelling Instructors. I am glad to say that the distrust of the J. A. S. and its Instructors is apparently dying out, and that there seems to be constant enquiry for information, and a persistent cry for more of the Instructor's time in the various districts visited. This can only be regarded as an answer to the efforts of the J. A. S. and its Branches, and as a sign of progress. I award 1st. prize of £2 to Geo. E. Samuels of Hopewell, Flint River P.O., with 95 marks. And by adding 10/- from the Special Prizes—to the 2nd and 3rd prize money making £3. I award this to the next 3 on the list equally divided, viz: To Lindon Samuels, Flint River P.O., 85 marks £1 0 0

Charles Dunn, Green Island P.O., 85 marks 1 0 0

Joseph Spence, Green Island P.O., 85 mrks 1 0 0

The small sugar factories were on the whole fairly good, except that none of the mills are covered, and that in nearly every case the ashes was unapplied and lying waste, both these are serious defects, and not difficult to remedy, and the Travelling Instructors attention is directed to this matter.

The cane fields were all good, and some of them quite exceptional. I award to:—

Walter Hogg, Lucea P.O., 1st. prize, 94 marks	£2 10/-
Lindon Samuels, Flint River P.O., 2nd. prize, 90 marks	1 10/-
Basillai Hayle or Haseley, Flint River P.O., 3rd. prize, 88 marks	1 0 0

The Yam fields were the most difficult to judge, the people are mostly all experts in this cultivation, it being one in which they are specially interested, and to which they give most of their time and attention; the difference between field and field is more apparent than real, and as the methods of cultivation change very considerably with change of locality and soil, the fields are not easily comparable. I have given full marks to the 1st prize winner, who left nothing to be desired in method, and systematic performance of the various operations and used this as a standard. The 2nd and 3rd are not far behind. Mr. Walter Hogg is specially commended for system and method in all the operations on his farm which is a model that his neighbours would do well to copy. I think that Mr. Hogg would be a great help to the Travelling Instructor if he could be induced, and it were made worth his while to help in the agricultural teaching in his neighbourhood. The awards are as follows:

Walter Hogg, Lucea P.O., 100 marks, 1st prixe	£1 10/-
T. A. Kerr, Lucea P.O., 98 marks, 2nd prize	1 0 0
Joseph Spence, Green Island, 96 marks, 3rd prize	15/-

The Cocoa Competition was on the whole disappointing. Considering the suitability of much of the Hanover soil for the growing of this tree, a better showing was to be expected. The marks given in this Competition are earned more for effort exhibited in improving trees, and in replanting since the hurricane of 1912, rather than for any excellence in the cultivations themselves, all of which leave very much to be desired. I award to:—

Wm. McTaggart, Lucea P.O., 1st prize, 85 marks	£1 10/-
George A. Shaw, Brownville, Cascade P.O., 2nd prize, 82 marks	1 0 0
Joseph Brown, Flint River P.O., 3rd prize, 71 marks	15/-

Of the balance of £1 10/- remaining to be awarded, I recommend that grants be made to Mrs. Greaves, Riverside P.O., Mrs. Russel, Flint River P.O., and Mrs. Kerr, Lucea P.O.. of 10/- each, for good housewifery.

It will of course be understood that I have no standard to which any of these Competitions are comparable, and this high marking does not mean perfection, against all comers, on the contrary each Class of Compettiton has to provide its own standard, and is only relative to its component parts and not to similar Competitions in other parts of the world.

(Sgd.) Ed. E. Melville.

MARKS EARNED IN HOLDINGS COMPETITION IN HANOVER, 1915.

HOUSE.

Names.		Post Office.	Total.	Remarks.
Mrs. Ann Davidson	..	Flint River –	95	To divide 1st prize, viz.: £1 10/- each
Miss Ann Brown	..	Green Island	95	
Robert Cordogan	..	Riverside –	90	To divide 2nd prize, £2 10/- & 3rd prize £1 10/- equally, viz., £1 6s. 8d. each. —
Benj. Pinnock	..	Riverside –	90	
Agatha Cordogan	..	Riverside –	90	
T. A. Kerr	..	Lucea –	88	
Charles Isaacs	..	Ramble –	88	
Mrs. Jessy Greaves	..	Riverside –	85	
James Russell	..	Flint River –	82	
George Shaw	..	Cascade –	75	
Mrs. Ella Pearce	..	Green Island-	65	
Edward McFee	..	Flint River –	61	
Joseph England	..	Flint River –	60	
Charles Hemans	..	Cascade –	60	
Andrew Little	..	Flint River –	55	
Daniel Miller	..	Flint River –	55	
Charles Dunn	..	Green Island-	54	
Adolphus Walker	..	Green Island-	53	
John D. Whitter	..	Flint River –	51	
Joseph Spence	.	Green Island-	48	
Saml. Martin	..	Green Island-	35	
John Chambers	..	Flint River –	30	

COCONUTS.

Geo. A Samuels	..	Flint River –	95	1st prize.
Lindon Samuels	..	Flint River –	85	2nd prize & 3rd prize added to 10/ extra divided equally £1 each.
Charles Dunn	..	Green Island-	85	
Joseph Spence	..	Green Island-	85	
Amos Box	..	Flint River –	83	
Ann Brown	..	Green Island-	82	
Walter Hogg	..	Lucea –	70	
William Hibbert	..	Cascade –	67	
Edward McFee	..	Flint River –	56	
Ann Davidson	..	Flint River –	55	
Mrs. Ferara	..	Flint River –	55	
John D. Whitter	..	Flint River –	50	
Samuel Martin	..	Flint River –	50	

CANE FACTORY.

Walter Hogg	..	Lucea –	94	1st prize £2 10/-
Lindon Samuels	..	Flint River –	90	2nd prize £1 10/-
Barsillai Hayle	..	Flint River –	88	3rd prize £1 0 0
T. A. Kerr	..	Lucea –	87	
Jonah England	..	Flint River –	84	
Emanuel Campbell		Riverside –	81	
John Chambers	..	Flint River –	72	
Joseph England	..	Flint River –	60	
Andrew Little	..	Flint River –	52	Hires motive power
Joseph Brown	..	Flint River –	48	Hires motive power
Charles Dunn	..	Green Island-	18	Sells canes to factory
Peter Deens	..	Green Island-	18	Sells canes to factory

YAM FIELD.

Names.	Post Office.	Total.	Remarks.
Walter Hogg ..	Lucea -	100	1st prize £1 10/-
T. A. Kerr ..	Lucea -	98	2nd prize £1 0 0
Joseph Spence ..	Green Island	96	3rd prize 15/-
Robert Cordogan ..	Riverside -	88	
John Haughton ..	Riverside -	87	
John D. Whitter .	Flint River -	83	
George Samuels .	Flint River -	82	
Lindon Samuels ..	Flint River -	80	
William Hibbert .	Cascade ..	80	
George Smithson ..	Cascade -	..	Entered rented land in error.

COCOA.

Wm. McTaggart ..	Lucea -	85	1st prize £1 10/-
George Shaw ..	Cascade -	82	2nd prize £1 0 0
Joseph Brown ..	Flint River -	71	3rd prize 15/-
James Russell ..	Flint River -	65	
Amram Malcolm ..	Riverside -	58	
Emanuel Campbell	Riverside -	45	
Duncan Godfrey ..	*Cascade* -	41	

(sgd.) E. E. MELVILLE.

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STOCK NOTES.

GARGET.—This is the term used to describe the hard udder that heavy milking cows often get after calving, or sometimes, immediately before calving. The udder gets very hard and very little or no milk comes, and such as does come may be thick and cheesy. The udder must be bathed with hot water, then worked (messaged) with the fingers, using a little good embrocation or liniment at the same time; the udder is stimulated by the rubbing and the embrocation. Where this treatment fails, it is because it done for a few seconds only instead of for 10 or 15 minutes. All the time the teats should be tried for milk by gently drawing them. This treatment should be repeated 3 times a day, because if neglected at all it may happen that one portion of the udder or sometimes the whole udder is ruined.

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CALVES.—Whenever calves are born their navels should be anointed at once with a home-made ointment made of 1 part of Jeyes' Fluid and 3 parts Castor Oil. The disease called "White Sores" originates from germs which enter the navel of the calf when it is born. This antiseptic treatment prevents the entrance of these germs and attacks of the "White Fly" which hatch out into worms which eat their way into the navel of the calf. It is quite common to pour raw Jeyes on the raw place at the navel, but this causes pain and burning, and the dilution with Castor Oil is better in every way. Of course there are other antiseptic treatments, but this one is simple and within everybody's power. When we speak of "Jeyes'" we mean any good disinfectant such as are advertised in this JOURNAL—Ferris' or Pattinson's or Kreso.

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DEHORNING CALVES.—Anyone who prefers poll-head cattle to horned stock can very easily secure this without breeding from Black or Red Poll breeds. For instance, cows may be made Polls, and the

bulls left with horns. Buy a stick of Caustic Potash (taking care to keep it from exposure to the air and not to handle it with the fingers as it will burn them). Within 2 days of the birth of the calf clip the hair from around the horn knob which may be easily felt, wet the knob and touch it with the Caustic. This will destroy the growth of the horn.

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SALT FOR STOCK.—When we travel we always look about and enquire whether the animals kept—horses, mules, donkeys, cows, goats and sheep—get salt. We leave out pigs, fowls and rabbits which do not need salt as the larger stock do. We find that very few stock owners provide rock-salt for their stock. Some say it wastes too much if they put it in pastures. It is easy to prevent rain from dissolving the rock-salt, however, by placing it in a box under the cheapest of shelters, four posts and grass thatch. But every cattle-pen can be fitted up to hold rock-salt in a box in the corners or in the middle, and the cattle will at least get some when they are driven in. In this way the salt can be taken up and locked away when the cattle are driven out. In this way, too, the cattle soon learn to expect salt in the cattle-pen and willingly go there without much driving. If left in pastures, rock-salt is often stolen.

At one time we imported sulphur and salt bricks, but they were rather expensive though very useful. The sulphur was medicinal and being excreted through the skin to some extent, the theory was that it helped to keep off ticks. This however, was not proved on trial, but the trial was not prolonged enough to be definite one way or another. But blocks which contain salt and which will not be stolen can be easily manufactured where there is clay by making clay blocks mixed with coarse salt, and any kind of medicine available in powder from can be added—sulphur and sulphate of iron, for instance. Plenty of stock owners, however, would prefer to purchase such medicated blocks already prepared, as the proportion of iron and sulphur requires to be accurately calculated.

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TICKS.—While there is a comparatively large use of Tick Washes as advertised in the JOURNAL compared with what prevailed a few years ago, there are still, unfortunately, very many who keep stock, never tick their cattle at all, or who do so only at long intervals. Consequently the determination of one penkeeper to try and get rid of these pests from his pastures and who works steadily towards this end, spraying his cattle at regular intervals, is set at nought by his surrounding neighbours whose pastures swarm with ticks all the time, who do little or nothing at all towards getting rid of these costly pests—and how costly ticks are to this country is, unfortunately, not realized by most people.

The Southern part of the United States was tick infested some years ago, and many States are still so, but a determined effort is being made to get rid of them over that large extent of territory. We publish below part of a short article from the *Breeders' Gazette* of Chicago. The article is entitled "Cleaning the South of Cattle Ticks."

We would go so far as to say that tick eradication should be made compulsory here.

A usual method of exterminating Texas fever in cattle is by swimming all animals infested with the tick, which causes the disease, through a machine-like dipping vat filled with a solution of arsenic.

The young ticks eagerly seek a host to which to attach themselves. They cannot fly, and crawl very indifferently; however, they patiently await the approach of a cow, but if none comes for a month the little pests wait. They can live four months without the cow's blood, at the expiration of four months in summer, if no succour comes, they die of starvation. The cow so unfortunate as to run into the ticks may quickly be covered with them. They inject into the cow the small microscopic body which is the direct cause of the fever. If it is not a native cow the fever appears about the seventh to tenth day. The temperature rapidly rises, often reaches 110° ; the animal at first dull and listless, becomes frantic and excitable and dies after great suffering. The native cows which we consider immune to Texas fever become thin, worried and worthless. The supposed immunity is only partial as at least 14 per cent. of all tick-infested cattle die every year.

Considering that it is a pioneer work, progress in eradicating the cattle tick has been remarkable. Just a few years ago very few people believed ticks could be stamped out. They have been entirely eradicated from more than 210,000 square miles of territory in less than eight years. The cost of cleaning up that territory is about $1,000,000 and the value of the work to the cattle-owners by the increase in prices amounts to $20,000,000.

More than one-fourth of the original quarantined area has been cleaned in eight years. At that rate it would take more than 250 years to stamp out the great evil from this nation. Eight years should be sufficient time to accomplish the remainder of this work. The south cannot stand still or be satisfied with the present sate of progress. Now the men at work have solved most of the difficulties attending the eradication campaign. They have the dipping vats and arsenical solution which is a safe, reliable and inexpensive method of destroying the tick. With these vats located at intervals of every 4 miles in a county all the cattle may be dipped every two weeks and in four months in the summer an entire county may be cleaned; yea, an entire state—in fact, the entire area.

There is no legitimate reason why they should not attack this basal subject. The tick is a menace, a costly drain, an unjustifiable expense, a needless tax and the greatest obstacle in the way of the cattle business of the south. Every ten years its aggregate tax upon the south amounts to the total debt. The south has tolerated the tick these many years and has paid dear for its indulgence.

The people's estimate of the value of tick eradication as indicated by more than 1,000 practical cattlemen shows that the losses from Texas fever are reduced from 18.5 to 1.1 per cent. of the total number of cattle. The value of steers is increased 55 per cent. The weight of cattle is increased 19.7 per cent. The grade of cattle is much improved and crop production is increased 83 per cent by the use of cow manure.

In South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma and Texas there are 15,038,805 cattle valued at $286,639,623. Let us apply the rule of increased valuation as the result of eradicating the tick from those states, and we shall have increased their value to $429,959,434, an actual increase of $143,319,811.65. With the tick obstacle removed, there will quickly follow a rapid increased interest in cattle. The south is justified in expecting that, with the new live stock era in the south, the total number will be quickly doubled, and we shall then have 30,077,610. Without drawing a particle upon the imagination, it is confidently expected that within 20 years after the departure of the tick we shall have so far progressed in the upbuilding of our herds that they will be worth double what they are to-day. The cattle interests will then be valued at $573,379,046.—*The Breeders' Gazette, 11/3/15.*

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POULTRY NOTES.

SELECTION.—No persons can improve their poultry whether the birds be fowls, ducks, turkeys or guinea fowls, unless they continue from year to year selecting their best for breeding purposes. Unless this is done, introducing cocks of certain breeds is futile. There is no quick short cut to steady success. The first thing to do is to keep the fowls healthy; only keep healthy fowls, keep them well fed but not over fed, with an abundance of fresh cool water. The lack of a fresh supply of water renewed at least morning and afternoon is

very often a big and cruel omission. Eggs are at least 70 per cent. water, so an abundant supply is necessary.

But the greatest power in the breeding of poultry *is selection*, not only of one's own birds from season to season, but selection in the introduction of fresh blood. One's first care should be healthy birds; the selection of the fittest to breed from. Then having vigour, select along the lines you aim at, good layers, fine table birds,, or the happy medium—the general utility bird.

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That this is not done is proved by the fact that the immediate descendants of fine birds, up to standard weight, for their breed, are often poor specimens of their breeds. We have birds sent to this office for our opinion and sometimes when we are acting as medium for sale, that are only worthy of the breed they belong to in colour and name.

May we assure those interested in poultry that there is very little in a name when applied to a breed of fowls; that in almost every *breed, there can be fine looking, thrifty fowls and fine layers, and* on the other hand rank rotters.

Strain counts for more than breed yet of course there is something in breed—but not much.

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YOUNG TURKEYS AND FOWLS.—Everybody who keeps poultry would be having chickens hatched from January until now. Already a great deal of mortality has been reported to us, especially among young turkeys. It is usually the diet that is wrong. It is particularly hard on the digestive powers of young birds to be fed on ground corn when they are just hatched. Stale bread toasted and crumbled fine, and, as a change, soaked in milk, where milk happens to be cheap, gives the young turkeys a good start. It pays to buy coarse oatmeal from the stores and feed young birds, principally on that whether turkeys or chickens for the first week. After that the ordinary brown rice can also be used, and for two weeks more the rice (taking particular care not to get the polished white rice) can be continued as the basis. In feeding rice, particular care has to be taken not to feed too much dry rice at one time as it swells so much—better to soak in milk or parboil with a little milk and water first, especially for young turkeys. If there are no duck ants about, to put before the chicks, the ground should be dug over to supply worms for them to pick, and where this cannot be done, a good plan is to lay down a lot of broad stones, or old boards here and there, and then lift them in turn. A good many grubs and insects will always be found below. Failing all these, meat scraps from the table must be given. In some places, however, where there are broad pastures, the young turkeys may be safely run, for there they pick up plenty of insects. The mortality is usually where they have to be more confined. Over-crowding and foul ground are fruitful causes of sickness and death. Chickens should not be fed on the same place twice running and should only be fed a little at a time and always dry food up to six weeks old, except with young turkeys which may be fed on soaked bread and milk for one meal a day. To feed anything sloppy to young turkeys is generally fatal. If the hens and chicks are kept in coops these must be shifted about. Water should be always be provided and changed at least twice a day, making sure to clean out the dishes, and these should always be kept in the shade. When the chickens are a month old

then ground corn can be used freely, especially our own country corn, but it should not be used new or half cured; it is easy to make corn a better food by parching or charring it a little. The chief diseases of young chicks are, first, digestive troubles (including liver diseases) through errors in feeding. Once or twice a week a teaspoonful of Epsom Salts should be put into a pint of water, and no other water put before them so that they must drink this. A common sign of indigestion is that the chicks have a huddled up appearance and refuse to eat, while their droppings are not normal. There is nothing better than making them drink a little Epsom Salts dissolved in water, while of course the cause must be corrected by following the procedure recommended here. Another trouble is Yaws. This is chiefly caused by crowding the ckickens in a coop at night amongst their own droppings or letting them sleep below hen roosts or any way in a fowl house where the ait is tainted with droppings. To prevent Yaws the coop should be kept perfectly clean and should not be shut up close at night. The first thing to do is to spray the *mother hen* in disinfectant and water—she often carries the germs of infection on her. When Yaws do break out, the Epsom Salts dissolved in water should be given to the chickens repeatedly and the eruptions painted every day with Tincture of Iodine, threepence worth of which using a camel hair brush or a feather, will last a long time. A stick of caustic is useful to burn these eruptions or cauterizing with the point of an old penknife made red hot—but the treatment with Tincture of Iodine is the simplest here where servants are so often stupid or careless.

Then there is Gapes got from germs in the soil through the ground being foul. It cannot be got if the coops are shifted about and the chickens run on fresh ground. If the extent of the ground is limited then the soil can be turned over with a fork and if possible occasionally limed. Failing lime, wood ashes are useful. The symptoms of gapes are—the chickens gape their mouths continually as if trying to swallow something. To cure this trouble, take a strip of feather, one drop of kerosene or turpentine and two drops of sweet oil, dip the feather in the mixture, and, taking the loose oil off, insert the feather quickly into the chicken's windpipe, giving it a twist round rapidly, and it will generally happen that little hairlike threads, which are really worms, will come out on the feather. As the chickens get older colds sometimes trouble them, and roup is really a very distressting disease. It is comparatively easy to attend to a few chickens, but when there are a lot the best thing to do is first to give the same Epsom Salts in the water, then confine them in a room or box and burn a little sulphur, or put a red-hot iron into Stockholm Tar as to cause a smoke, or drop a few drops of Eucalyptus Oil on an old pan or tin made red hot. Care of course, must be taken that the chickens do not get too much of this. A little whiff of it at a time repeated several times is best. This will generally kill the germs that cause the cold. A good roup powder added to soft food is useful in toning up the system. If there are only a few chickens they can be treated by hand, by taking the chickens up and washing the nostrils clean with a small pinch of Permanganate of Potash to a pint of water, and touching the nostrils and roof of the mouth with a feather dipped in a little Healing or Eucalyptus Oil. These are all simple treatments and only simple remedies are given. There are other ways of treatment more elaborate but beyond the means or capacity of most of our readers. Those given we have

found very successful. To prevent infection of other chickens or *fowls, it is good to put a teaspoonful of Eucalyptus Oil in the* drinking water.

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DUCKS AS MOSQUITO DESTROYERS.—Ducks have proven much more effective mosquito destroyers than fishes. In the experiments reported by Dr. S. G. Dixon, of Pennsylvania, two ponds, of 1,400 square feet each, were produced by dams on one stream, and 20 Mallard ducks were placed in one, while the other was well stocked with gold fish. For several months the ducks' ponds was entirely free from mosquitoes, which continued very abundant in the young stages in the other pond. The infested pond was then opened to 10 Mallard ducks, which first destroyed the tadpoles, and then ravenously devoured the mosquitoes in preference to any other food. In 24 hours no pupae could be found, while after 48 hours only a few larvae survived.

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AGRICULTURAL COURSE AT HOPE.

A course of instruction has been arranged to be held at Hope from the 3rd to the 8th May, inclusive, principally for the benefit of the various Agricultural Instructors and all agriculturists are invited to attend, who will be able to arrange to do so. Lectures and demonstrations will be given by the Microbiologist and the Entonologist, by the Veterinary Surgeon, and the Director of Agriculture will take one day. Some of the senior Agricultural Instructors will also give lectures in the afternoons and evenings on subjects which they are specially qualified to deal with.

Those desirous of attending this course may inform the Secretary Agricultural Society, or the Director of Agriculture direct.

SYLLABUS OF COURSE TO BE HELD AT HOPE, FROM 3RD TO 8TH MAY.

Monday, May 3 :		
2—4	Lecture & Demonstration	S. F. Ashby.
Tuesday, May 4 :		
9—10.30	Lecture	H. H. Cousins.
1—3	Demonstration	Farm Supt.
Wednesday, May 5 :		
9—10.30	Lecture	A. H. Ritchie.
1—3	Demonstration	A. H. Ritchie.
Thursday, May 6 :		
9—10.30	Lecture	S. F. Ashby.
1—3	Demonstration	S. F. Ashby.
Friday, May 7 :		
9—10.30	Lecture	Dr. Rushie Grey.
1—3	Demonstration	Dr. Rushie Grey.
Saturday. May 8 :		
7—8.30	Demonstration	Dr. Rushie Grey.

Lectures will also be given by some of the Agricultural Instructors :—Mr. Cradwick on Cocoa, Mr. Wates on Coconuts, Mr. Mossman on Banana Growing, Mr Schleifer on Long Top Coffee, and probably Mr Smith on Dry Land Agriculture.

COMMENTS.

SUBSCRIPTIONS.—Members of this Society should note that subscriptions are now due for the year beginning 1st April, 1915, and ending 31st March, 1916.

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BRANCH SOCIETIES.—Branch Societies should note that we are now in a new financial year and they should get in the subscriptions from their members as quickly as possible and send us lists of their members as soon as they can. We have sent out a circular reminding the local Secretaries of this.

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WAR FUND.—Although the Agricultural Society's War Fund closed last month we received from the Bull Head Branch this month a further donation of £1, making the total now £155 18s. 11d. As this last amount was received after the 31st March, when the financial year closed, we had already remitted the amount we had in hand to the Bank of Nova Scotia, *viz.*, £154 18s. 11d., but we shall send in this £1 additional.

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SOY OR SOJA BEANS.—We hope that a good many of our readers will try packets of this Japanese Bean, which is richer than all other beans in fat and protein. They would be very valuable as an addition to our legumes if they could be successfully grown here.

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POTATOES.—By this word we mean what are commonly called here "Irish Potatoes." Since November last, we have imported 410 barrels of seed potatoes, and the growing of this crop has become a substantial industry, especially in the parish of Manchester. The earliest potatoes will be in by the beginning of June and the bulk of the crop by July.

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KEROSENE EMULSION.—The easiest way to make Kerosene Emulsion is to take 1 lb. of Paranaph (sold wholesale at 2d. per lb., at the Government Laboratory, and 3d. per lb. retail at various Hardware stores in Kingston) dissolved in one gallon of boiling water. Add 1 quart Kerosene Oil churning the mixture at the same time. To this add 4 gallons more of water, *i.e.*, make the whole up to full, a kerosene pan full, and use thus.

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CLAY.—The best method of breaking up clay and making it into friable loam is first, by drainage, 2nd, by heavy green dressings turned into the soil, and 3rd, lime. If all these operations are carried on together the stiffest clay can be loosened and made friable.

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GOOD PRODUCE.—We congratulate the Glengoffe Branch on having carried the following resolution unanimously:—

"We the members of the Glengoffe Branch, assembled for the transaction of business in connection with the annual meeting, hereby pledge ourselves not only to place on the market none but the best cured agricultural products, but also to influence others to adopt the same principles."

Those Agriculturists who have the enterprise to belong to the Agricultural Societies, which we regard as Mutual Improvement Societies, in Agriculture, should be examples in their neighbourhood.

GUINEA CORN.—There is a large quantity of White Guinea Corn available for planting in June and August—June in the slower growing districts and August in the quicker growing districts. This variety of Corn is very prolific but only bears in January. It is good alike for seed and for green fodder. The Red Guinea Corn is not so prolific as it has a shorter growing season—generally 4 months. It can be planted any time there is rain. Unfortunately, we have not much seed of this kind.

Cheap Guinea Corn will solve the problem of cheap poultry food as it does not need to be threshed out—the heads can be simply flung to the fowls. It can also be fed to mules, horses, and dairy cows, in the same way.

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HONEY.—Although honey is one of our best productions in Jamaica and during 1913 we exported 127,610 gallons, valued at £18,343, there is very little of it consumed locally. Honey has a pleasant flavour and the sugar in it is easily digested. It is more economical than butter, and to some extent it could replace butter in the human economy as a source of energy, especially in a warm climate. Time was when it was easily procurable here in jars, bottles, etc., but now we hardly see in at all. People who want honey and would use it, will not go hunting after it, but if it was made easily procurable it would be purchased. When prices abroad are low the local market is worth attending to.

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PIGS.—There is a shortage in pigs again. They have not been up to a normal supply since the long drought of 1907, though nearly so in 1912; then the drought in the St. Ann, St. Mary and the Eastern parishes in 1913 threw us back again. An epidemic of a disease, which was suspiciously like Swine Plague, also occurrred early this year in St. Ann and Southern St. Elizabeth, which cleared off a good many pigs again. As local foodstuffs are plentiful and likely to be very plentiful, great care should be taken now not to market any shoat pigs but to keep them for breeding purposes. In addition to the "Large Blacks" at the Hope Stock Farm, we know of two breeders who have a good many half and three-quarter bred Poland Chinas to sell, of a very good stamp. The difficulty with pigs, however, is to get them about the country, where the places are not convenient to sea or railway.

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WEEVILS.—Some correspondents write us that they do not find Napthtalene successful in keeping weevils out of Corn. When we make enquiries we usually find that they have not followed the written instructions at all. A tablespoonful is the minimum quantity required for the treatment of a flour barrel full of Corn, and that is quite effective, but the same quantity would not have any effect on a large cask full—the quantity has to be calculated at the rate of a tablespoonful for from 2 to 3 bushels, and it must be placed in muslin or porus cloth; tying Naphthalene in a piece of old canvas—as one correspondent tried to do—is of no use. At the same time, for very large quantities of Corn stored in a room or in a large puncheon it would be better to use the Bi-Sulphide treatment—the Naphthalene is only for those who are storing in barrels, small bins or boxes.

ORANGE WINE.—We live in hope that some enterprisng person will take up the making of Orange Wine on a large scale. We have had samples of an Orange Sherry which appears to us to be quite as good as the ordinary Sherry of commerce. It can be sold at 1/- the pint bottle. But we do not see why Orange Cider should not be made, put up in casks and sold so cheaply that it will become a popular drink.

To squeeze the juice out of the Oranges a Cider Press can be used—such presses are made to be used by hand or to be moved by power, and have a capacity of 10 to 15, and upwards, barrels of juice per day.

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SEED CORN.—There has been a large demand for Seed Corn this year and there has been much planting. It generally happens that a man is enterprising enough to want to plant the best selected Seed Corn he coincidently gives his field better cultivation, and so we expect better and better results every year.

There have been several Corn Growing Competitions recently, and while these efforts have resulted in big crops, it is not alone the big crops secured by the prize winners that show the good that has been done. The efforts of those who won no prizes are of value, because they are, in nearly all cases, productive of much new knowledge.

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ENTOMOLOGIST.—The new Entomologist to be attached to the Department of Agriculture—Mr. A. H. Ritchie—has arrived in the Island and has taken up his duties. There is a great deal of work awaiting him. We pbblished something on the work of an Entomologist in the last Journal (March) under the heading "Insect Pests," page 86. His particular line of work deals with insects and birds. All specimens of insect pests formerly sent to the Microbiologist should now be addressed to the Entomologist, c/o the Hon. Director of Agriculture, Kingston P.O. We gave some information on how to collect and send specimens of insects on page 88 of the last JOURNAL. Care must be taken to send biting insects in a proper box. It is very usual to send us specimens in match boxes, which insects that can bite usually gnaw through, and when we open the paper enclosing these we have sometimes had the task of chasing insects about the office. We should prefer that all specimens be sent direct to the Entomologist.

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COMPETITIONS.—A Cocoa Growing Competition has been arranged in Mr. Wates' Instructural District, i.e., Eastern Portland and Eastern St. Thomas, The Parent Society is not providing any funds for this as it is entirely a matter of local effort which is very praiseworthy.

The Cottage Holdings Competition held in Portland so successfully last year, will be repeated there this year. His Excellency the Governor, who is Chairman of the Parent Society, has given £5 to provide the prizes for this Competition.

It is not likely that any of the Society's regular Competitions will be held this year. The usual Prize Holdings Competition should have been held in Westmoreland, St. Andrew, St. Elizabeth and Clarendon, but as the Government has had to cut £500 off the Society's grant, owing to the necessity for economizing all round, amounts

to the total of this sum have to be taken off our estimates. Two of the items stuck off are the amounts for the Prize Holdings Competitions and Shows.

We are greatly interested in these Prize Holdings Competitions, and while they have been held under the most difficult circumstances, sometimes, they have still been very successful, and the competitions in the various parishes have done a great deal of lasting good.

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WAR GIFTS.—Most of the last consignment of War Gifts were intended for the North Sea Fleet, and we have now acknowledgments of the receipt of 400 cases of fruit (Grapefruit and Oranges) and 5 cases of Preserves. These have been very much appreciated. The Secretary of the Vegetable Products Committee of London, who takes charge of forwarding consignments of fruits and vegetables to the North Sea Fleet, writes us as follows:—

"The Fleet has now been at sea for nearly eight months, during which time the Admiralty has not included any fresh fruit and vegetables in the regular rations served out to the men. During this time, the Vegetable Products Committee and its various branches have supplied the Fleet with about 700 tons of fresh fruit and vegetables, and the effect of these upon the mens' health is testified not only by a multitude of letters from the men themselves, but more strikingly in the letter received from the Medical Director General of the Royal Navy."

We hope to send another consignment of Guava Jelly and Grape Fruit Marmalade shortly, and we shall be glad to supply 10lb. tins to anyone who will undertake to fill them. Rail free. Also we hope to send some mid-year oranges, and we are anxious to know what districts have these now or are likely to thave them soon.

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BRANCH NOTES.

CEDAR VALLEY (St. Catherine.)—The regular monthly meeting was held on the 23rd February. There was quite an unusually good turn out of the members and no less than seven visitors, two of whom became members afterwards. The Instructor who is apparently never weary to exhort the members to plant quick growing crops again, did so. He pointed out the possibility of Annatto bearing a bigh price for a long time. The Secretary spoke asking the members to co-operate in infusing life in the Society. A few minor matters were dealt with. J. A. CLARKE, Secretary.

FAR ENOUGH (Clarendon.)—A meeting was held at the Good Hope School Room on Wednesday, 24th February, 1915. There were present: Mr. T. A. Schliefer (Agricultural Instructor,) the Secretary, the Vice-President, 12 members, and a visitor, Mr. John Horn. The Vice-President occupied the chair. The sum of twenty-one shillings was voted as a donation from this Branch to the "War Fund." It was agreed to, that meetings be held every 4th Wednesday of each month. The Instructor reported that he had inspected the Barbeques of Messrs. James and McLean, who were competing for the Barbeque Competition, and that both barbeques were satisfactorily built. The Instructor informed the meeting that it is his intention to have an April Show in 1916, and that each Branch Society is to send some description of April Products to that Show, and that this Branch must endeavour to make a better display than the other districts. A circular was read from Mr. Barclay *re* "Authorized Persons," and replied to saying there are no authorized persons in connection with this Branch, for Praedial Larceny is on tbe decrease in this district. Read Circular from Mr. Barclay *re* Mouth Disease of Horsekind; years ago that Disease was in Upper Clarendon, but at present we are quite free from it. A letter was read from the Assistant Secretary Brandon Hill Branch, requesting the cooperation of this Branch, to petition the Legislative Council through our Representative, to have a Law enacted, for the fencing of all lands adjoining Main and Parochial Roads throughout the Island by the Government; it was thought to be a good idea, but that at present, the Government was not in a position financially

to carry it out. The Instructor then addressed the meeting on the Panama Banana Disease, and gave some useful instructions as to what should be done as soon as any sickness appeared in this district in the Banana plants After a few questions from members to the Instructor, the meeting then adjourned. The Instructor shortly after proceeded to the Coffee and Cocoa Cultivation of Mr. Samuel Richards, and gave a practical demonstration of Coffee and Cocoa pruning, which held the attention and interest of many of the members, and other spectators, both from the valuable instruction and advice given by Mr. Schliefer, but also from the dexterity with which he handled the pruning knife on useless branches. J. L. ROBERTSON, Secretary.

MAY PEN (Clarendon.)—The monthly meeting was held on Wednesday, 24th February. There were present: Mr. Storkes De Roux, president; 25 members, the Treasurer and the Secretary. The Secretary stated that Mr. S. A. Schliefer, (Agricultural Instructor.) expressed his regret at not being able to be present as he was on leave. A letter from the Secretary of the Parent Society was also read intimating that Mr. Schliefer would be on leave of absence until the 1st April, to allow him to fully recuperate from the effect of his recent illness. As arising out of the minutes, Mr. E J. Lewis asked whether the "authorized persons" had made reports, as determined by the Society. The Secretary explained that the list of "authorized persons" was sent to the Secretary of the Parent Society and he had not yet been informed of the approval of these appointments, hence he did not send round circulars to the men informing them to present their reports. Mr. Thomas Green, however, who was present at the last meeting, presented his monthly report which was read. Mr. Green reported that while there were many cases of praedial larceny in his district, before his appointment, that offence is now very rare, as the appointment seems to have a very beneficial deterrent effect. He also asked if it were possible for "authorized persons" to be supplied with a copy of the Sub-Officers' Guide Book, also if "authorized persons" could act as valuators in case of damage inflicted by stock tresspassing. Mr. A. H. DeLeon explained the duty of "authorized persons," and it was pointed out that an "authorized person" could assess damage done by stock just as any other responsible person. Mr. DeLeon promised to give Mr. Green a copy of the Sub-Officers' Guide, but it was explained that these books could not be supplied by the Society. The "authorized persons" who required a copy could purchase same for themselves. The report of the Instructor on the corn growing competition was read. It was decided that the awarding of the prizes be held over till the next meeting when the Instructor may be present, and that in the meantime, those who promised donations towards the prize fund, be asked to hand in same. Mr. T. B. Thompson was deputed to get in the amounts promised by the gentlemen on the Parochial Board. The President spoke on the good effect of the competition and emphasized the necessity for improved methods of cultivation and careful seed selection . If these be carefully attended to, there would be no need for the importation of corn into a country like this. Mr. Ralph Conrad advised the members to learn to use bisulphide of carbon for the preservation of their corn from the attack of weevils. Mr. Rennalls reminded the members of the difficulty there was last year of procuring good seed corn, and advised that they select choice ears and store them up, that they may have select seeds for next season. Mr. A. B. Francis stated that the guinea corn crop at Portland and other districts of Vere has been a record one, and has been the salvation of the people after their experience of the effect of the drought. He also stated that in his district there were able-bodied men who still preyed on the cultivation of others. C. L. A. RENNALLS, Secretary.

KELLITS (Clarendon.)—A meeting was held on Friday, 26th February, 1915, Present, the Instructor, six members and the Secretary. The Instructor stated that he had started the judging but was not through. Correspondence was read and discussed. The names of Authorized Persons were taken down to be sent to the Parent Society. The Instructor spoke about the Corn Growing Competition. He started the judging. It was very encouraging as the results showed in some cases over 50 bushels, and in one instance as much as 92 bushels to the acre. He impressed on the members to plant Guinea Corn. Mr. Pinto spoke on co-operation among members. This subject will be discussed at next meeting, when we hope to have a better attendance J. J. SMELLIE, Secretary.

BROWN'S TOWN (St. Anns.)—A meeting was held in the Baptist School room on Friday, February 26. There were present: E. Arnett, Esq., (Instructor); L. M. Atherton, Esq., Vice-President (presiding), the Secretary and fourteen other members, as well as a few visitors. Read letter from the Secretary of the Parent Society re War Fund. The Secretary said that he had handed to J. H. Levy, Esq., the sum of £1 towards the War Fund. Read letter *re* War Gifts. Mr. Arnett

said that Mr. Barclay had since received 233 letters from the Hospitals thanking him for the gifts of oranges. Read letter *re* Half-Yearly General Meetings to the effect that it is advisable to send a delegate to the General Meetings. It was agreed to nominate J. C. Riley and A. A. T. Brown, (both members of the Society) to be Authorized Persons for the Districts of Standfast and Benon-Wilberforce respectively. Mr. Arnett said that on account of the war, the Board of Management decided that the judging of the Prize Holdings Competition, which should have come off in St. Ann in May next, be suspended for the year. If, however, the money could be found at any time, the judging would come off during the present year, He said further, that the suspension of the judging would not greatly inconvenience the competitors, as the drought last year had affected the crops severely. He also said he had arranged to have a talk on Co-operation, but as other matters of importance took up so much time he would defer the same until the meeting in April. He was asked by the Board of Management to get up a scheme of co-operation amongst the cultivators in these parts of the Island, whereby a place could be secured for the start, in curing of coffee and other crops, and thus securing a market for the produce of the small settlers. He promised to speak on this at a special meeting in April. The Instructor gave a very interesting and useful talk on the growing and curing of coffee. The cultivators knew only the old-fashioned way of planting coffee, at this meeting they learnt that coffee can be planted in simpler ways and bring better results. Some of the members thought that something useful should be purchased for the use of the members of the Branch, and it was agreed that th Secretary should find out from the Parent Society how much it would cost to procure a ram of the Angora breed. The meeting then adjourned to the 23rd April next, which will be also the Annual General Meeting. T. A. BRAMWELL, Secretary.

BETHEL TOWN (Westmoreland.)—A meeting was held on the 27th February, Eighteen members, Mr. J. Briscoe (Instructor), the Secretary and a few visitors were present. During the discussion as regards decision at last meeting for the sale of the Boar it was however found out that several members have promised to secure his service, so with this promise of support, it was decided to cancel the sale. Correspondence was read from the Parent Society relating to the special "Prize Holding Competition" for the parish during the present year, but it was agreed that it is better to keep to the old form of competing, and the Secretary was instructed to inform the Parent Society of this decision. The debate on corn brought out some points:—Kind of soils, preparation of same, selecting of cobs and grains from the middle cob, and the cost to produce one acre was averaged at £3 18s. 0d. The speaker then put down the yield per acre at 60 bushels, which was much below what he expected, as the last competition of the Branch gave results from 65 to 102 per acre. Allowing, he continued, that the price went down to 3/ per bushel, still there would be a clear profit of £5 2s. 0d. per acre. Hence he claimed that under proper cultivation, corn should bring a reasonable profit in Jamaica. The votes were then taken and it was decided in favour of the affirmative: That corn can be cultivated in Jamaica to yield a reasonable profit. The Instructor informed the meeting that on the 24th prox. at 3 p.m., a lecture on plant disease (banana chiefly) will be given in the Cambridge Court House by the Microbiologist, and asked that as many members as possible should endeavour to attend. L. G. BALDIE, Secretary.

TROJA (St. Mary.)—The regular monthly meeting was held on Thursday evening, 27th February. Members present: The President, the Secretary, the Treasurer, and twelve other members, the Instructor and two visitors. The President invited discussion on 'Experimental Plot,' remarking that he felt certain the new teacher would ratify the concession of a square chain of land given by his predecessor. Mr. Thompson (the teacher) readily signified his willingness to do all he could to further the interests of the Branch subject to the approval of his Manager. Mr. Gardner said that in his opinion there was not sufficient land available for the purpose on the school premises as he didn't think it would be fair to ask the teacher to cut down what little cultivation there was on the land to oblige the Branch. The justice of this was readily seen and both Messrs. Mignott and McNeil offered to put a square chain of land at the disposal of the Society. Mr. McNeil's plot being already fenced and in close proximity to his stables, his offer was accepted. Mr. Mossman said that this was especially an opportune time to start the experimental plot as in view of certain changes he contemplated making in his itinerary, he would be able to render the Branch material help in laying out the plot, etc. He explained that the changes he intended making were due to his conviction that he would be able to render much more assistance to the different branches if he could devote more time to each so that he was seriously considering the advisability of dividing his parish into sections and residing for at least a month at a time in each section, and he hoped that if he

succeeded in his aim the members of the various Branches would show their appreciation of his efforts by utilizing his services to the fullest extent, as he would from the first day of his residence in any district hold himself in readiness to go anywhere and render all the help he could. His remarks were warmly seconded by the President who in very forcible terms called the attention of the members to the deplorable condition of many of their holdings and instanced the scarcity of bananas at this season—with prices likely to rise—which scarcity he declared was in a great measure due to slip shod methods of cultivation. Read letter from General Secretary asking for a list of authorized persons attached to the Branch. The Secretary was instructed to supply Mr. Barclay with the information required. Apropos of this item, Mr. Hudson (an authorized person) complained that the legal distinctions between praedial and common larceny was a source of trouble and confusion to them. Mr. Mossman said that much of the trouble experienced by the authorized person was due to the fact that instead of taking their arrests to the nearest Magistrate, they generally went to the Police which was in direct opposition to their written instructions. He assured Mr. Hudson that the difficulty complained of by him and others was now having the consideration of the Attorney General. On the initiative of the President, a resolution was passed instructing the Secretary to circularize the authorized persons attached to the Branch calling their attention to the penalties attached to the offence of not reporting their doings to the Branch. Mr. Mossman redeemed his promise to repeat his lecture on the causes and progress of the present war, and in his usual clear and lucid style kept the meeting intensely interested for half an hour, after which a Committee to look after the experimental plot was formed and the singing of the National Anthem brought a very instructive and interesting meeting to a close. R. A. CRUIKSHANK, Secretary.

AEOLUS VALLEY (St. Thomas.)—A meeting was held on March 1st. (Monday) 1915, in the Government School Room at 5 p.m. Present: 11 members and the 1st Vice Chairman, who presided. Correspondence from Secretary of Parent Society and others were read. The business of the meeting is to consider the advisability of sending a representative to a meeting of the Lower St. David's Branch to be held the 6th March next, to confer jointly, about each Branch's share of surplus money from the Show in 1911. Whether the money is to be shared or lodged in the Bank, jointly, for future Shows, or for any emergencies which may arise. Mr. R. Barnett was elected to be the representtive. The Secretary was instructed to write the Chairman of the Show Committee for that year, 1911. And that he he present at that meeting along with Mr. Barnett. R. A. JONES, Secretary.

WHITEHOUSE (Westmoreland.)—The annual meeting came off on Tuesday, the 2nd March, 1915, in Kings School. Twelve members, Mr. Daniel Scott, who was elected a member and paid his subscription for the year, and several visitors attended. Mr. McLeod and others exhibited specimens of homemade rattraps, and showed how they were to be set. The Prize Competition for the parish: In the absence of the Instructor, it was decided to get the Secretary to write the Parent Society for details as to the size and kind of cultivation to be competed for. The Secretary gave in his report of the Branch for 1914. The report showed the death of one member, the falling off of twelve through want of interest in agricultural matters; the success of the Penny Bank; and the lectures given by the Instructor. The Treasurer's report showed a balance of nine shillings and six pence in hand after meeting expenses and contributing two pounds to the War Fund. The President next gave an interesting retiring address and urged members to do their best to keep the Society alive and strong. The election of officers followed. Mr. Ewers moved that all the officers be re-elected. This was unanimously agreed to. The officers accepted re-election and thanked the members for the confidence reposed in them. An extract on "Ticks" and their eradication", was read by the Secretary.

M. HEWITT, Secretary.

BELFIELD (St. Mary.)—The usual monthly meeting was held on the 3rd March. There was a very large turn out of members. Present were: Revv. H. W. Mitchell (in the chair), 8 other members, and the Acting Secretary. Letters from Sir John Pringle and the Hon. R. P. Simmonds were read, intimating their willingness to use their influence in getting the Government to complete the deviation of the Hardy Hill. Letters from the Colonial Secretary and Director of Public Works were also read, expressing the inability of the Government to proceed with the work owing to lack of funds. The efforts of the elected members at the instance of the Hons. H. T. Ronaldson and H. A. L. Simpson to bring about a change in the system of land valuation for taxation purposes was brought up. Mr. C. A. Monaghan stated

that the statements made by the Valuation Commissioner and the Attorney General were incorrect. Speaking for himself, he said he owned a half acre of land he bought for £5 on which his residence was situated. Prior to 1912 he was assessed at £105. In that year, he did some slight improvements to the house, and was assessed at £170. Mr. Vernon said he was greatly surprised at the misleading statements of those two officials. He (Mr. Vernon) bought an acre of land on which there was an uninhabited hut. He was assessed at £40 and to get the assessment reduced, to £20, the value of the land, he had to push down the hut. The President also spoke stating that he really could not understand the Attorney General and the Valuation Commissioner. He knew of a case where the assessment had been increased by over £200, because a decent cottage was erected on the holding. Several other members spoke of the injustice of the present system, whereby the poor man was compelled to contribute more (proportionately)than the rich. It was moved: "That the Belfield Branch heartily approves of the efforts of the Hons. H. T. Ronaldson, H. A. L. Simpson and other elected members of the Legislative Council in their endeavour to bring about a fair and equitable system of land valuation for taxation purposes. The Branch cannot help expressing its surprise at the statements made by the Attorney General and the Valuation Commissioner (vide *Gleaner* of March 22nd) and hereby refutes the statements that in the country parishes, the value of the houses are not taken into account in valuing lands for taxation purposes." This resolution was unanimously agreed to. Mr. Vernon expressed his regret that their esteemed Instructor was not able to be with them. Mr. Cradwick, he said, had had quite a run of misfortune. Mrs. Cradwick had been ill, seriously, for a long time now, and Mr. Cradwick himself had had several attacks of illness. He moved: "That the Belfield Branch extends to Mr. Cradwick, Agricultural Instructor, its sincere sympathy with him in his recent troubles, duringthe serious illness through which Mrs. Cradwick has passed, and is still passing. This Branch is aware of the unabated interest and untiring zeal Mr. Cradwick has always evinced in the agricultural interests of the island as a whole, but more particularly of the peasant proprietors, and take this opportunity of recording in the minutes its high appreciation of these particularly marked characteristics of Mr. Cradwick's life and work. This Branch is fully convinced that Mr. Cradwick's absence from some of the meetings of branch societies is by no means due to lack of interest, but to the fact that a good portion of his time has been taken up with matters connected with the Toronto Exhibition, and this coupled with the serious illness of Mrs. Cradwick, and his own frequent indisposition." Mr. C. A. Monaghan seconded. The President, in supporting the resolution, spoke in glowing terms of the usefulness and kind *heartedness of Mr. Cradwick. The resolution was unanimously carried.* Letters from the Secretary of the Parent Society *re* branch notes, authorized persons, and the proposed lecture of Mr. Ashby, (Government Microbiologist) at Richmond on the 10th inst., were read. Mr. F. Moore moved: "That provisions be made by this branch for the regular sending to the half-yearly meeting of the Parent Society a representative." This was agreed to. Mr. Morris spoke about children under 14 years selling pods. The law on the subject was pointed out, also the fact that the enemy of the cocoa pod was not so much the juvenile population, as the idle bulky men who were able to remove large quantities at a time. The next meeting was fixed for Wednesday, 7th April. H. G. VERNON, Acting Secretary.

MT. INDUSTRY (St. Catherine.)—A meeting was held on the 4th of March, 1915. There being over fifty persons present, among whom were Messrs. F. Levy, who presided and A. P. Hanson, (Agricultural Instructor.) A letter fromt the Parent Society informing the branch of the proposed visit of Mr. Ashby to Linstead to lecture on banana disease was read. The Secretary was instructed to write Mr. Barclay suggesting a visit of the Microbiologist to Glengoffe, tbis being a good centre for the Societies at Glengoffe, Mount Industry, Above Rocks, Mount Charles and Brainerd. The Instructor spoke about the soil best suited for the growth of the banana and how to plant it; also what uses cassava could be put to. A very interesting discussion took place after the lecture and a vote of thanks was accorded the Instructor for his useful talk. Mr. Howell of the Glengoffe Branch have a helpful address on the pruning of cocoa. His address was very much appreciated by the meeting which voted him its cordial thanks. The date of meeting was changed from the first Thursday to the third Friday in the month. The members present promised to subscribe so as to purchase some seeds from the Parent Society.

R. SIMEON ANGLIN, Secretary.

RICHMOND (St. Mary.)—A meeting was held on Friday, the 4th March, 1915. There were present: Nine members, Messrs. E. Gunter and C. Watts, (Assistant Instructors.) The Produce Protection Law was discussed. Several members spoke

about the manner in which the unripe pods of cocoa are being sold, and the continued sale by children under the age limit; also, that the buyers are not making the required entry. Mr. W. Thomas said, that he noticed in his field, some pods of cocoa wrung by the stem, with a view to getting them ripe in a few days. This is near to an adjoining neighbour. Mr. Watts said, that at the Half-Yearly meeting the same was discussed, and it is likely that the buying of produce will be done only by the establishment of central factories. Mr. Gunter gave a stirring address on the same, showing the benefits to be derived therefrom. The Secretary next moved that a grindstone be bought out of the funds in hand, but was not agreed to. The buying of tar was thought to be more requisite, and it was agreed that a 25 gallon barrel of tar be bought. Mr. Gunter said that 25 gallons of coal tar would be delivered at the railway for 19/-. *Re* the Prize Holding Competition, Mr. E. Gunter spoke very earnestly about this, reminding the competitors of what was required The members thanked Mr. Gunter for his remarks. C. CREGG, Secretary.

MAHOE HILL (St. Mary.)—A meeting was held at the Schoolroom, Broad-gate, on Thursday, 4th March, at 6 p.m. Present were: Rev. T. Lawrence, President. The Secretary and five others. A letter from the Parent Society, stating the proposed removal of the difference between praedial larceny and common larceny, was read. The Secretary explained the matter, if a man stole pod-cocoa from the trees he is charged with praedial larceny, but if he steals the dry cocoa, then he commits common larceny. So they wish to remove this, so as to give the Authorized persons freedom to act in either case. Attention was called to the rule requiring that Authorized Persons make monthly reports of their work, to the Branch at its meeting. These persons will be so informed. Post Office: The President asked about the P.O. as the delegate was requested to bring the matter to the notice of the Governor at the Half-Yearly Meeting. The delegate said that Mr. Barclay had ruled that it was not a proper subject for the Half-Yearly Meeting. The Secretary on his return wrote the Governor, who replied saying, that owing to the financial condition of the island he regrets he could not order the opening of the office. Thus the matter ends. Resignation: Mr. J. Dillon gave verbal notice of his intention to resign as a member of the Branch. He explained his reason, and said Mr. Mosman, who came in Mr. Cradwick's place last year, told the members all about the Prize Holding Competition, and that ½ acre holdings would be elegible. but Mr. Cradwick had rejected his application, hence he was dissatisfied. The Secretary said Mr. Cradwick is the Senior Instructor, and therefore must have more knowledge about the prize-holding. Again the rules are to be found in the JOURNALS. Mr. Cradwick is very much interested in the small holding and would not refuse any elegible application. The President gave similar instruction, and asked Mr. Dillon to reconsider his decision. Mr. Dillon said another point was the refusal of the members at Mahoe Hill to attend meetings at Broadgate. It was pointed out that Mr. Cradwick on his very first visit refused to attend meetings at Mahoe Hill until improvement on the road was made. An arrangement was made to the effect that on his next visit, the meeting was to be held at 4 p.m. at Broadgate, and on the following Friday, he was to visit the district of Mahoe Hill for demonstration. This arrangement was not carried out thoroughly, but so as to encourage the increase of the membership of the Branch a resolution was passed last year, that the monthly meetings be held alternately at Mahoe Hill and Broadgate. So that if members said Mr. Cradwick arranged the meetings at Broadgate for his convenience, it would be true. Those members who voted for the change are responsible. Both the President and Secretary could not see the cause of objection in the matter. Unity: The President urged the members to try to unite for the welfare of the district. W. A. SIBBLES, Secretary.

MOCHO AND BRIXTON HILL (Clarendon.)—A very enthusiastic meeting of this Branch was held in the Mocho Schoolroom on Friday, 5th March, 1915. Present: T. Wint, Esq., (V.P.), who presided, and thirteen other members, including the Secretary. It was agreed that in future, meetings be held in the Mocho Schoolroom, commencing at 3 o'clock p.m., and not as usual alternately with Brixton Hill. The Secretary was instructed to write at once to all members who are in arrears to attend next meeting, and to pay their subscriptions, as that will be the first meeting of another financial year. The Secretary was directed to give (at next meeting) an account of all matters connected with Grindstones, etc. At next meeting rules *re* forks, and the management of same, will be laid before the meeting, and the said forks must be brought in early. Further, that all rules governing the Society be read at next meeting. It was agreed that the Secretary be given compensation for his (highly appreciated) services rendered this Society for four years just closing. It was agreed that an assistant Secretary be appointed at next meeting. The report of Authorized persons was deferred to next meeting. S. AUG. FRANCIS, Secretary

BLOXBURGH (St. Andrew.)—The last regular meeting of this Branch was held 1st March, 1915. The President, the Secretary and 14 members were present, and one visitor, Mr. Vickridge, President of the Dallas Society. The Secretary read letters from the Secretary of the Parent Society *re* the suggestion to get sone plants from the Hope Farm, which was made sometime ago, when our Instructor, Mr. Hanson, was present; the season being quite favourable, we sincerely ask that we be given some grapefruit plants, sweet potato slips, some cane tops, cassava sticks and cedar seedlings as early as possible, was agreed to. Members complain that the barrels of potatoes were not full for the price paid, and remarks like these have caused some of the members to hold back from further purchasing. I made it very plain to them according to your explanation to me, but they say they would prefer the barrels unexamined as they arrive. The Secretary was asked by the Authorized Persons to enquire if they are allowed to value damages done to cultivated fields when destroyed by live stock. S. ROBINSON, Secretary.

DUANVALE (Trelawny.)—A special meeting was held on the 5th March, 1915. Among the many memhers and visitors present were: Messrs. J. Barclay, F. Arnett, M. Rennie, V.P's., P. James, and J. Anson, E. I. Hawkes, M. P. B., and L. N. Welsh, the Secretary. The Secretary extended a hearty welcome to all, and voiced the sentiments of all the members at the extreme pleasure in being favoured with the visit of Mr. Arnett and his Assistant, Mr. Rennie, but more especially so with the visit of Mr. Barclay, for whose benefit the meeting had been specially called. After a few more preliminary remarks, he called upon Mr. E. I. Hawkes to preside, who in a short speech referred to the dignity of being an agriculturist. The Chairman next called upon Mr. Barclay to address the meeting. Mr. Barclay rose amidst cheers; and in a very lengthy, but very interesting, instructive, and profitable address, he spoke on, *inter alia*, the workings of the agricultural system governing the Instructors, the importance and power of Branch Societies, Authorized Persons and Larceny, and Co-operation between Societies and Instructors. A hearty vote of thanks was accorded to Mr. Barclay for his very fine address. Mr. Arnett, in responding to the call addressed the meeting and spoke on the hopefulness of the Branch *re* an increase of life and activity, especially after having had Mr. Barclay's visit, the procuring of an Instructor, and the co-operation, receptiveness and willingness on the part of the members to be benefitted by the Instructor's help. He also spoke of the very large store of knowledge possessed by Mr. Barclay on poultry. Mr. Rennie, too, he said, who very likely will be located in these parts, possessed much knowledge on small stock. At his request, the members agreed to hold their annual meeting on the last Monday in April, at which he hoped to be present. Although the Chairman did not call on Mr.. Rennie for a speech, seeing that he was not officially on as yet, yet he rose and in a short speech, said that if it be his privilege to be sent to these parts, he would try to do his best, and they were to do their best likewise. L. U. WELSH, Secretary.

EAST PORTLAND (Portland.)—The regular monthly meeting was held in the Schoolroom , March 6th, 1915. There were 13 members present. Goat Pen: A pen was erected by sticks and bamboos, which cost over one pound, The goat having fallen off condition through confined in pen, many members gave their own opinions to let free the animal for some time to run on the open common. Mr. McLean said confinement does no harm. Providing fresh feeding is given, allowing this goat to run about will mean a free giving away of the breed. It is decided to let free the goat for two months under Mr. E. A. Sherwood's responsibility. The meeting was then brought to a close. E. R. WALLACE, Secretary.

RED HILLS (Clarendon.)—A meeting was held on Tuesday, March 9th, at 5 o'clock. There were present 16 members, the Agricultural Instructor, Mr. S. A. Schliefer and 4 visitors. The business of the meeting was brought forward by the Secretary, explaining conditional terms which prove some weakness in some matters. Notice was given that members are to be re-appointed for the coming year. It was again decided that all members must pay in their subscription at the first meeting in April, 1915. Mr. S. A. Schliefer gave a lecture, showing what plans should be made for the coming year: and that the best was that some money could be spent was to buy a *Probong* for the use of choked cattle. Mr. A. L. Smith spoke showing his appreciation towards the Society show that the best acts of a Society is unity, hoping that with such qualities, our Society will be strong. Meeting adjourned till April 6th. A. E. MILLS, Secretary.

BROWN'S HALL (St. Catherine.)—A meeting was held in the Schoolroom on Wednesday, the 10th March. There were present, the Rev. G. L. Young, President:

Messrs. Geo. Thomas, V.P., H. L. Mossman, (Agricultural Instructor,) five members, two visitors and the Secretary. A circular letter from the Parent Society *re* the Authorized Persons was read and discussed. Arising out of the discussion, the following resolution was agreed to: "That the Authorized Persons in connection with this Branch of the Jamaica Agricultural Society, be instructed that it is imperative to attend the monthly meetings of the Society; that at these meetings a report of their work either in writing or verbally, be presented, and that any certificates they have are to be presented for signature; that if they fail to attend two consecutive meetings of the Society without legitimate excuse, they will be reported to the Parent Society." At this stage the Instructor addressed the meeting. He dealt with diseases attacking yam plants and referred to investigations that had been made by which he was able to state, that a solution of lime water and jeyes' fluid would prove effective in destroying the worms, and advised the members to soak their yam heads in this solution before planting. He observed that the cane cultivations in the district were not well looked after, judging from the crops that were being reaped. He emphasized the necessity of proper tillage and the careful selection of good tops. He dealt with the diseases of the Cocoa plant, and showed how these must be attacked and destroyed. This subject he promised to continue on his next visit. He advised that attention be given to the cultivation of Annatto as this article from its use could usually find a market with very profitable returns. He encouraged the members to continue to give attention to the coffee crop though the prospects were not at present hopeful. At the conclusion of this address, Mr. Geo.. Thomas supported the Instructor in his valuable suggestions, and encouraged the members to follow his advice, and not to think they knew all that can be known about agriculture. The President then thanked the Instructor on behalf of the Society for his useful lecture, and the meeting adjourned. J. M. COUSINS, Secretary.

UPPER METCALFE (St. Mary.)—The monthly meeting was held on the 12th March in the Brainerd School Room. Twelve members were present. Rev. Mr. Hastings presided. It was agreed to return to the old custom of holding the monthly meetings on the 1st Friday, instead of 2nd Friday, as at present. Letter from Mr. Barclay *re* Authorized Persons was read and discussed. It was eventually decided to recommend that the names Timothy Bonner and Joseph Duncan be dropped from the list of Authorized Persons in connection with this Society. Stealing of cocoa pods from small settlers and the purchasing of green cocoa pods by local buyers came up for discussion. The Chairman allayed all fears by intimating that the Legislators had the matter under consideration. It was moved and agreed to :— "That the sympathy of this Society be conveyed to Mr. Cradwick, Agriculrural Instructor, whose wife has been having a painful and trying illness." The Secretary was asked to enquire of Mr. Barclay for seed corn, with a view to secure a bushel for planting. W. T. EDWARDS, Secretary

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GIBRALTAR (St. Ann's.)—The monthly meeting was held on the 25th March. 14 members were present. The (Assistant Instructor) Mr. M. Rennie, was also present. Mr. Campbell occupied the Chair. A letter from the President, Rev. Joseph Thrift, resigning his office, was read. The resignation was accepted. Matters arising out o the minutes were dealt with, but as the gathering was small, the matter of the Co-operation Scheme was left over for the next meeting. The Authorized Persons gave their reports, which were very satisfactory. Only one case of praedial larceny occurred in the Somerton district, but the District Constable took charge of it. This is the only case that has been noticed in this district for the past six months. An Authorized Person asked whether he could act in any part of the parish. The Secretary promised to make inquiries. The subject for discussion, viz., "The Curing of Coffee" was dealt with. Nearly all the members gave their views; also the Instructor. The discussion was lively and very helpful. The Instructor intimated that a set of tools could be bought for the Society for pruning coffee. The Somerton Road was brought up, and the Secretary promised to see the Chairman of the Parochial Board about the matter. Dissatisfaction was again expressed at the non-appearance of the Branch reports in the JOURNALS. The item for discussion at the next meeting is: "Banana Cultivation."

J. B. MORRISON, Secretary.